SITE INVESTIGATION

VOLUME II

GUIGNON AND GREEN CO.

AKA: CONTINENTAL TURPENTINE & ROSIN CORP.

AKA: CALI CARTING

KEARNY, HUDSON COUNTY, NEW JERSEY

EPA ID NO.: ~~NJD982741498~~
NJD980757579

New Jersey Department of Environmental Protection
Division of Publicly Funded Site Remediation
Office of Site Assessment

ATTACHMENT M

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-7141
Fax # (609) 633-1454

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Robinson Frazier
Frazier & Frazier, Attorney At Law
Suite A 1515 Riverside Avenue
Jacksonville, FL 32204

Re: Guignon & Green Company
410 Bergen Avenue, Kearny Town, Hudson County
ECRA Case #86034
Sampling Plan Dated: May 1990

Dear Mr. Frazier:

Pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (NJDEP) by the Environmental Cleanup Responsibility Act (ECRA, N.J.S.A. 13:1K-6 et. seq.) and delegated to the Chief of the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA) pursuant to N.J.S.A. 13:1B-4, the referenced Sampling Plan is hereby approved as conditioned herein:

I Soil Conditions

Overall the maps submitted are too general to be of any use. In future submittals a more detailed map shall be submitted showing the entire property boundary. The location of the existing fence is not on the property line. The surveyors map submitted with earlier reports shows the property line extending into the area where the wood chips and oil were dumped. Enlarged, individual, area specific maps shall be submitted for each area of concern. The results of the sampling required herein shall be depicted on these individual maps with all the results being reported, not just the results above the current NJDEP action levels. The maps shall show in detail, the sample locations and results. Separate maps for each class of contaminants need not be generated. It is more useful to show all the results for an area of concern on one map rather than separating the contaminants by class.

The proposal to conduct sampling for TPHC analysis only is unacceptable. Base Neutrals and Volatile Organics have been detected in the surface soil. The compounds of concern and their respective cleanup criteria that shall drive the total petroleum hydrocarbon soil remediation at this facility are:

Carcinogenic Polycyclic Aromatic Hydrocarbons (CaPAHs) - 10 ppm *
Non-Carcinogenic Polycyclic Aromatic Hydrocarbons - 100 ppm
Petroleum Hydrocarbons (PHC) **
Total Volatile Organic Compounds - 1 ppm ***

ATTACHMENT M1

* For petroleum based contamination. If carcinogenic PAHs (CaPAHs) are present, the Soil CLeanup Level for BN shall be 10 ppm. The CaPAHs are as follows:

benzo(a)anthracene	dibenz(a,h)anthracene
benzo(b)fluoranthene	dibenzo(a,e)pyrene
benzo(j)fluoranthene	dibenzo(a,h)pyrene
benzo(k)fluoranthene	dibenzo(a,i)pyrene
benzo(a)pyrene	dibenzo(a,l)pyrene
chrysene	indeno(1,2,3-cd)pyrene
dibenz(a,h)acridine	dibenz(a,j)acridine
7H-dibenzo(c,g)carbazole	

** A cleanup concentration for PHC in excess of 100 ppm will be evaluated by the Department at such time as delineation of PHC to NJDEP Action Levels (100 ppm) is complete, said PHC contamination is demonstrated to be free of Volatile Organics (Benzene) and CaPAH contamination in excess of 1 ppm and 10 ppm, respectively, and said PHC contamination has been demonstrated to have had no impact on ground water.

*** For petroleum based contamination. If Benzene is present, cleanup shall be to 1 ppm; if Benzene is not present, cleanup of VO shall be to 10 ppm. This alternative VO cleanup level applies only to hydrocarbons and not to other species such as halogenated VOs.

Guignon & Green has presented the argument that the soil contamination detected on-site is from off-site sources but has not provided the technical data to support this hypothesis. During a recent site visit, in response to a fuel spill reported to be emanating from the Guignon & Green property, Department representatives observed the soil surrounding one of the open excavations on-site to have a greenish tint. The green layer was a few inches thick and was observed to have a peculiar petroleum odor. Guignon & Green did in fact deal with bulk petroleum products and stains were noted on the soil during the initial site inspection. Until factual evidence is presented that supports the off-site source theory, the Department will not consider such a theory and Guignon & Green shall be required to complete the delineation of the contamination known to exist on or emanating from the property (wood chip and oil dumping area included).

The Department's July 10, 1990 letter required Guignon & Green to begin the immediate removal of the oil contaminated wood chips which were placed in the wet lands which abut the Guignon & Green property by the current tenant. As of September 17, 1990, this corrective action has not been implemented. Please be advised that Guignon & Green continues to be out of compliance with ECRA for failure to implement the cleanup of the oil contaminated wood chips as specified in the Department's July 10, 1990 letter. Accordingly, the implementation of the conditions contained in this document shall not relieve Guignon & Green of any obligations or responsibilities set forth in the regulations promulgated pursuant to the ACT. The Department reserves the right to implement full enforcement measures pursuant to the regulations.

The November 17, 1989 results report documents the removal of approximately 258 cubic yards of contaminated soil from numerous excavations. Disposal documentation has not been provided for the excavated soil. Guignon & Green shall provide this documentation with the results of the sampling required herein.

ATTACHMENT M2

Areas Approved with Conditions

1. Area A: Former Drum Storage Area

Area A, the Former Drum Storage Area, exhibited elevated Base Neutrals and Total Petroleum Hydrocarbon (TPHC) contamination. The proposal to excavate former sample location A-2 is acceptable. Post-excavation sample analysis shall include TPHC, as proposed, and BN+15 for the reasons mentioned above.

The proposal to excavate former sample location A-7 is acceptable. Post-excavation sample analysis shall include TPHC, as proposed, and BN+15.

Although a targeted cleanup level of 500 ppm for TPHC's has been determined for the site, Guignon & Green shall delineate to action levels (100 ppm) or confirm a reduction of TPHC concentrations both horizontally and vertically.

Base-of-excavation samples shall be collected if the excavation does not extend to the water table. If the excavation does extend to the water table, then only sidewall samples shall be required.

Actual sample depths shall be reported in the results report as well as the actual depth of the excavations. Past submittals have been vague in this regard.

2. Area B: Tank 7 Spill Area

Area B, the location of former tank #7, exhibited elevated Base Neutral, Volatile Organic and Total Petroleum Hydrocarbon contamination. The proposal to extend the existing excavation horizontally in all directions is acceptable. Post-excavation sample analysis shall include TPHC, as proposed, and BN+15 and VO+15 in all samples.

The Base Neutrals and Volatile Organics will be the driving factor for the cleanup. The Department recommends the use of field instruments to aid in the delineation of the contamination but in no instances shall a ND reading in the field be used in support of no further action. All recordings of ND shall be verified with sampling and laboratory confirmation analysis.

Base-of-excavation samples shall be collected if the excavation does not extend to the water table. If the excavation does extend to the water table, then only sidewall samples shall be required.

Actual sample depths shall be reported in the results report as well as the actual depth of the excavations.

3. Area C. Diesel Fuel Tank Area

The proposed excavation of former sample locations C-2, C-3, C-4, C-5, C-6, C-7 and C-8 is acceptable. Post-excavation sample analysis shall include TPHC in all samples and VO+15 and BN+15 in 25% of all samples. The samples collected for BN+15 and VO+15 analysis shall be biased towards former sample locations that exhibited elevated concentrations of that particular contaminant (i.e. former sample location C-2 had elevated Volatile Organics, Guignon & Green shall resample this area for Volatile Organics after the remediation is complete).

4. Area D: Former Pump House

ATTACHMENT M3

Elevated TPHC and Volatile Organics were detected in this area. Base Neutrals

were not analyzed. The proposal to excavate former samples D-1, D-2, D-3 and D-5 is acceptable. Post-excavation sample analysis shall include TPHC, as proposed, and VO+15 and BN+15 in all samples. Extremely elevated concentrations of TPHC contamination was detected in this area and no Base Neutral analysis was conducted. As mentioned above, Base Neutrals and Volatile Organics will be the driving factor for the cleanup.

Base-of-excavation samples shall be collected if the excavation does not extend to the water table. If the excavation does extend to the water table, then only sidewall samples shall be required.

II Ground Water Conditions

Areas Approved with Conditions

1. Guignon & Green shall immediately locate and seal damaged monitoring wells MW-2 and MW-4. The wells shall be sealed by a driller specifically licensed to do so in accordance with the NJDEP specifications for sealing wells.

2. Guignon & Green shall install two additional monitoring well to replace the damaged wells MW-2 and MW-4. The new wells shall be installed within ten feet down gradient of each damaged well. It is advised Guignon & Green construct flush mounted wells to avoid possible damage to the new wells The wells shall be constructed with the top of the screen above the water table without exception. Guignon & Green shall notify the tenant that he must take care not to damage any additional wells but if one is accidentally damaged it shall be reported immediately.

3. Monitoring well MW-3 and the two additionally required wells shall be sampled and analyzed for Volatile Organics plus 15 peaks (VO+15), Base Neutrals plus 15 peaks (BN+15) and Total Petroleum Hydrocarbons (TPHC).

4. Well specifications shall be provided for all monitoring wells and recovery wells. This shall include depth to top of screen (below ground surface), depth to bottom of screen, and depth to ground water below ground surface taken at two separate readings at least two weeks apart.

5. Guignon & Green Company shall collect ground water samples a minimum of two (2) weeks following development of the wells.

6. Guignon & Green Company shall notify BEECRA at least two (2) weeks prior to the drilling of the required monitoring wells.

V ECRA Guidelines for Data Presentation and Proposals

Data Requirements

1. Guignon & Green Company shall include the following information with the results of sampling:

A. Logs for all soil borings and wells.

B. Soil profile logs for all excavations.

C. Monitoring Well Certification Forms: Form A (As-Built Certification) and Form B (Location Certification) shall be completed for each monitoring well installed. Form A shall be submitted with the results of sampling. Because additional wells are sometimes required to complete a hydrogeologic investigation, Form B may be submitted after completion of the installation of all required ground water monitoring wells, unless required prior to that time

by the Department. As built diagrams of all wells shall be included with Form A.

D. A scaled site map of all well and soil boring locations.

E. A minimum of two (2) ground water contour maps, including depth to ground water and reference point elevation, with depth to water readings taken at least thirty (30) days apart. If applicable, depth to water readings taken prior to purging shall be used for contouring purposes. Any corrections made to the static water level due to the presence of free product shall be reported, along with the thickness of the product layer.

F. The following purge information: date and time of purge, depth to water before purging, purge method, estimated volume of purged water, depth to water after purging, date and time of sampling, depth to water before sampling and sampling method.

G. A site map which lists the concentrations of all significant contamination found (above ECRA action levels) at all sampling locations. The labeling of data shall be keyed to facilitate interpretation, especially at locations where more than one type of contaminant is found. The use of contaminant isopleth maps is also encouraged.

Data/Results Presentation

Because of case management workloads and volumes of data reviewed and processed, the noted formatting requirements are essential to insure complete and timely review of the submittal.

2. The results of sampling shall be provided in a tabular format. Information shall include the sample number, location, interval and depth of sample, sample matrix and the analytical methods used.

3. Tier II deliverables shall be identified and separated from the submittals, discussion, conclusions and data summary sheets. The enclosed Laboratory Deliverables checklist shall be completed and returned with the Tier II deliverables.

4. All submittals of text/data shall be forwarded in triplicate and shall be properly paginated, bear a table of contents and be bound (1 copy may be unbound for filing purposes).

Failure to organize submittal information as outlined above may result in the returning of the submittal for correction and resubmission. Failure to address these conditions and provide documentation where required shall constitute non-compliance with ECRA. No final approvals will be issued until all issues are resolved.

The Cleanup Plan Proposal

During the course of the implementation of the sampling and the generation and evaluation of data, the consultant will be considering the development of a Cleanup Plan. To insure a complete and timely review of the submittal, the Cleanup Plan shall be a stand alone, self supporting document. As a guide to this process, the following elements shall be included in the formation of the plan:

5. Introduction

6. Table of Contents

ATTACHMENT m5

7. Summary of Environmental Concerns. This shall include the results of previous sampling.

8. Summary of the proposed remedial actions. This shall include the evaluation of any alternative remedial actions, if appropriate.

9. Cleanup level to be achieved. Be specific with regard to media and parameters.

10. A Work Plan shall detail the specific activities that will be used to complete the proposed cleanup objectives.

11. A post-remedial sampling and monitoring plan.

12. A specific time table for implementation of the Cleanup Plan which includes milestones in the project.

13. Progress reports, dependent on the duration of the cleanup.

14. Estimate of costs for the cleanup shall include:

a. capital costs
b. operation and maintenance costs
c. monitoring system costs
d. laboratory costs
e. engineering, legal and administrative costs
f. contingency costs

Failure to submit the appropriate document as outlined above may result in the returning of the submittal for correction and resubmission.

VI General Requirements

1. Guignon & Green Company shall accomplish this investigation and any further analytical investigations by the methods outlined in this sampling plan. If any change in methods outlined in this Sampling Plan is necessary or if any delays are encountered, Guignon & Green Company shall inform BEECRA in writing prior to implementation.

2. Guignon & Green Company shall submit summarized analytical results in tabular form. Guignon & Green Company shall also submit with the analytical data all documents associated with the sampling and testing, including but not limited to lab sheets, chain of custody, results of blank analyses, lab chronicles, summary of analytical instrument tuning, and analytical methods used.

3. Guignon & Green Company shall submit the results in triplicate within ninety (90) days of the receipt of this approval.

4. Guignon & Green Company shall notify NJDEP at least five (5) business days prior to implementation of sampling.

5. Guignon & Green Company shall submit the appropriate fee as required by N.J.A.C. 7:26B-1.10. The enclosed Fee Submittal Form is provided for guidance to determine the fees required; this form shall be completed and returned with the submittal package.

6. If contamination is determined to exist above a level found acceptable by NJDEP, Guignon & Green Company shall prepare and submit a Cleanup Plan

developed pursuant to N.J.A.C. 7:26B-5.3 to address said contamination. If the data from implementation of the approved Sampling Plan indicate that the presence of contamination, but is not sufficient to define the full horizontal and vertical extent, then such areal definition shall be proposed as a Sampling Plan Addendum in a form which meets the criteria of N.J.A.C. 7:26B-3.2(c)11. The horizontal and vertical extent of contamination shall be determined before an approvable Cleanup Plan can be developed.

If you have any questions, please contact the Case Manager, Joshua Gradwohl at (609) 633-7141.

Very truly yours,

Draft

Dawn M. Pompeo, Acting Chief
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

cc: J. Morrow, BEERA
J. Eck, BGWDC
Ed Grosvenor, Health Officer
John Mihalich, Geraghty & Miller
Victoria Yoska, Guginon & Green Company

ATTACHMENT M7

ATTACHMENT N

VOLUME I/IV

IMPLEMENTATION OF THE SAMPLING PLAN ADDENDUM OF MAY 1990 GUIGNON & GREEN SITE KEARNY, NEW JERSEY

February 1991

Prepared for

Guignon & Green
Kearny, New Jersey

Prepared by

Geraghty & Miller, Inc.
201 West Passaic Street
Rochelle Park, New Jersey 07662
(201) 909-0700

ATTACHMENT N'

CONTENTS

ATTACHMENT N°2

TABLES

FIGURES

ATTACHMENT N-3

APPENDICES

A. Wastewater Disposal Manifests

B. Soil Profile Logs for All Excavations

C. Sample/Core Logs

D. Replacement Monitoring Well's Construction Diagrams

E. Monitoring Well Certification Form A and Form B for Monitoring Wells

F. Water Sampling Logs

G. Summary of Analytical Results for Soil and Ground-Water Samples

H. Laboratory Non-targeted Compound Quantification Letter, Envirotech Research, Inc.

ATTACHMENT N4

IMPLEMENTATION OF THE SAMPLING PLAN ADDENDUM OF MAY 1990 GUIGNON & GREEN SITE KEARNY, NEW JERSEY

INTRODUCTION

This report provides the results and interpretations of data acquired through field activities, which include soil and ground-water sampling for laboratory analysis at the Guignon & Green site in Kearny, New Jersey. These field activities were performed in accordance with the sampling plan addendum dated May 1990 which was approved by the New Jersey Department of Environmental Protection (NJDEP).

BACKGROUND

In May 1986, Guignon & Green retained Geraghty & Miller to prepare and implement an initial soil quality assessment sampling plan (Geraghty & Miller, Inc. 1986a) at the Guignon & Green facility in Kearny, New Jersey (ECRA Case No. 86034) in accordance with the investigative requirements of the Environmental Cleanup Responsibility Act (ECRA) of the State of New Jersey. The results of this assessment were submitted to the NJDEP in October 1986 (Geraghty & Miller, Inc. 1986b).

Based on agreements made during a meeting between the NJDEP, Geraghty & Miller, and representatives of the Guignon & Green Company in February 1987, a site ground-water investigation was implemented during the period from January through March 1988. A report on this investigation was submitted to the NJDEP in May 1988 (Geraghty & Miller, Inc. 1988a). At the request of the NJDEP, a second round of ground-water sampling was conducted in August 1988 and the results were submitted to the NJDEP in November 1988 (Geraghty & Miller, Inc. 1988b).

In response to a request from the NJDEP, Geraghty & Miller submitted a cleanup plan in April 1989 (Geraghty & Miller, Inc. 1989a). The NJDEP did not approve the

ATTACHMENT N5

cleanup plan, but accepted the proposal to excavate contaminated soils and collect post excavation soil samples for delineation purposes. The soil excavation work was conducted in September 1989, and the results from the post-excavation soil sampling were submitted to the NJDEP in November 1989 (Geraghty & Miller, Inc. 1989b).

At the request of the NJDEP, Geraghty & Miller prepared a sampling plan addendum in May 1990 to remove additional contaminated soil, collect post-excavation soil samples, replace Monitoring Wells MW-2 and MW-4 (which were destroyed during activities at the site by the occupant, Cali Carting Company), and conduct the subsequent ground-water sampling. Later in the same month, an oil spill was observed by the Cali Carting Company to the east of the property line. NJDEP approved the Sampling Plan Addendum in October 1990 (Pompeo, pers. comm. 1989) with some modifications. The work proposed in sampling plan addendum was conducted under the supervision of Geraghty & Miller, Inc. in December 1990 in accordance with the Sampling Plan Addendum of May 1990 incorporating the conditions specified by NJDEP in this conditional approval letter dated October 4, 1990. This report summarizes the field activities and the analytical results of the soil and ground-water samples.

SITE DESCRIPTION

The Guignon & Green Site is located in a low-lying industrialized area in Kearny, New Jersey (Figure 1). The site is bounded immediately to the west and south by drainage swales and bodies of ponded surface water. There is also a swale east of the site that drains from the north onto the eastern end of the Guignon & Green property. At certain times of the year this surface water overflows onto the Guignon & Green property, inundating large portions of the site. Results of sampling performed by Geraghty & Miller during previous investigations at this site indicate that the ponded surface water bodies in the surrounding areas contain contamination that could be emanating from neighboring facilities and disposal practices. The Guignon & Green property is subject to the influx of surface water from the drainage swale that drains eastward on the south side of the property, or

from the ponded water directly to the east, indicating at least two potential directions of contaminant transport to the site. As such, the potential exists that the Guignon & Green Site has been and may continue to be contaminated by overflow of drainage swales and ponded surface water.

Commercial and industrial facilities surround the site and are located upstream along the drainage ditches running adjacent to the site. Across the ditch to the south is a refuse disposal site (Geraghty & Miller, Inc. 1988). Numerous contamination incidents in Kearny, New Jersey have been reported and are under investigation by the NJDEP (Geraghty & Miller, Inc., May 1990). Reportedly, these contamination incidents have involved disposal of organic solvents, fuel oil, metals, and other pollutants to land surface, ground water, and surface water.

REGIONAL HYDROGEOLOGIC CONDITIONS

REGIONAL GEOLOGY

The site is located near the western margin of the Hackensack Meadows (New Jersey Geological Survey 1959). The uppermost geologic formation consists of peat or meadow mat mixed with fine-grained sediments. Underlying this organic-rich upper layer are clay and silt deposits associated with sedimentation in glacial Lake Hackensack that occupied the region 10,000 to 15,000 years ago. The fine-grained lake deposits are in turn underlain by glacial till deposits composed mostly of sand and gravel (Argon 1980).

The bedrock beneath the unconsolidated deposits consists of shale and sandstone of the Triassic-Jurassic age Passaic Formation of the Brunswick Group (Lyttle and Epstein 1987). The bedrock is exposed approximately 0.5 mile to the west of the Guignon & Green site; the bedrock surface slopes steeply to the east toward the Hackensack River Valley (New Jersey Geological Survey 1959; State of New Jersey 1968).

ATTACHMENT N7

GROUND-WATER USE

A well inventory of water withdrawal points within a 1-mile radius identified only one water supply well. This well and the other wells within a 5-mile radius of the site derive water from the Brunswick Group (Geraghty & Miller, Inc. 1988a). The conditions present at the site have no impact on this water supply well.

SITE HYDROGEOLOGY CONDITIONS

GEOLOGY

Based on the material recovered from split spoon sampling during the drilling of the monitoring wells, and the geologic information provided in the ECRA investigation report (Geraghty & Miller, Inc. 1988a), the shallow site-specific geology to a depth of 14 feet has been defined. The near-surface stratigraphy at the site generally consists of the following three geologic formations:

- A fill layer consisting of grayish brown to reddish brown fine to coarse sand with some silt, gravel, and debris of wood, bricks, concrete, metals, coal and ash; this occurs from land surface to depths extending up to 2 to 6 feet below.
- A layer of fine sediments, mainly clay and silt, underlies the fill. Peat and other organic-rich materials were identified in the upper part of this layer.
- A reddish brown to gray, fine to coarse sand with some silt, trace clay and gravel; this is encountered between 7 to 14 feet below land surface (near the bottom of the borings).

GROUND-WATER FLOW CONDITIONS

The results of the present investigation as well as the previous investigation (Geraghty & Miller, Inc. 1988, 1989) revealed that the ground-water table at the site is

ATTACHMENT N°

within a few feet of ground surface. Ground water beneath the site flows in a southeasterly direction under a gentle hydraulic gradient determined to be approximately 0.00125 foot/foot. However, as determined during this investigation, ground water flow adjacent to the drainage ditch, reverses direction in the southeast portion of the site, towards the northeast. This is attributed to the hydraulic interconnection between the ponded/backed-up surface water and the shallow water table. The backed-up surface water is shifting the ground-water flow towards the northeast. The ground-water flow conditions were determined on two separate occasions, depicted December 30 , 1990 and February 15, 1991, and are depicted on Figures 2 and 3.

FIELD PROGRAM

OIL SPILL AND WOOD CHIP AREAS OF CONCERN

Until the implementation of this investigation, it was believed that the oil spill that occurred immediately to the east of the Guignon & Green site was the responsibility of the current owner of the property under ECRA regulations. However, a recent survey of the actual Guignon & Green property boundary conducted by a licensed New Jersey survey (GEOD surveying and aerial mapping of Newfoundland, New Jersey) revealed that the oil spill is located off-site approximately 15 to 20 feet due east of the nearest staked survey point of the property (Figure 1). As such, the oil spill issue is no longer the responsibility of the current property owner.

Prior to the occurrence of oil spill in the area adjacent and off-site to the Guignon & Green property, the current tenant, Cali Carting spread approximately 140 cubic yards of wood chips in area delineated as wetlands by NJDEP abutting the property (Figure 1). These wood chips were contaminated immediately after the occurrence of the abovementioned oil spill. Geraghty & Miller will propose to perform in-situ soil sampling for waste classification purposes to address this area of concern. A proposal regarding the wood chips will be submitted to the NJDEP in the near future.

ATTACHMENT N°

SOIL EXCAVATION

On December 13 and 14, 1990, Geraghty & Miller implemented the conditionally approved Sampling Plan Addendum at the former Guignon & Green site. Geraghty & Miller retained the services of Direct Environmental, Inc. (DEI) to perform the soil excavations as outlined in the Sampling Plan Addendum and to remove the ponded water from each of the previous excavation areas, A, B, C, and D. Prior to any soil excavation, DEI pumped off the ponded water from each of the previous excavation pits using a 3,200 gallon vacuum truck. Approximately 7,000 gallons of waste water were removed from all four excavation pits and shipped under manifests to Dupont's Deepwater New Jersey facility. Copies of the manifests are attached as Appendix A.

After the removal of the ponded water, DEI began excavating soils from areas outlined in Sampling Plan Addendum using a backhoe with a dedicated (steam-cleaned) bucket. Excavation was carried out at locations A, B, C, and D under the supervision of Geraghty & Miller's field hydrogeologist. Between each excavation area, the backhoe was steam-cleaned to prevent cross-contamination. Approximately 75 cubic yards of soils were excavated from all four of the previously excavated pits and stockpiled on-site for waste classification and subsequent disposal in an appropriate manner. The stockpiled soils were placed on plastic and also covered with plastic to prevent any dispersion of the material. After the post-excavation soil samples were collected, the excavation areas were lined with 6 millimeter plastic sheeting and backfilled with clean certified fill and compacted by DEI. The soil excavation profiles associated with Area A, B, C and D are attached as Appendix B.

ADDITIONAL SOIL SAMPLING

On December 12, 1990, twelve soil samples, (two from Area A (SA-1, SA-2), four from Area B (SB-3, SB-4, SB-5, SB-6), three from Area C (SC-7, SC-8, SC-9), and three from Area D (SD-10, SD-11, SD-12)), were collected at distances between 6 and 15 feet

ATTACHMENT N°10

away from the respective excavations at a depth interval of 0 to 6 inches below land surface. A steam-cleaned split spoon sampler was used to collect each of these soil samples. Soil samples were put in sample bottles, packed in ice and shipped to Envirotech Research, Inc. on December 13, 1990. These soil samples were collected to delineate the horizontal extent of total petroleum hydrocarbon (TPHC) distribution at some arbitrary distance from each of the excavation areas (A, B, C, and D). The collected soil samples were analyzed for total petroleum hydrocarbons (TPHC) only.

POST EXCAVATION SAMPLING

On December 13, and 14, 1990 post-excavation soil samples were collected from the sidewalls of the excavations designated A, B, C, and D with stainless steel spoons at depths of 0 to 6 inches and 18 to 24 inches below land surface. No soil samples were collected from the base of the excavations due to the water table penetrating into the bottom of each of the excavations. Samples were collected for BN+15 and TPHC analysis from the 0 to 6 inches depth interval, and for VOC+15 from the 18 to 24 inches depth interval. These representative soil samples were transferred into the necessary sample bottles, packed in ice and shipped to Envirotech Research, Inc. under Geraghty & Miller's Chain-of-Custody. In addition, field blanks were taken on each day of sampling to ensure QA/QC. A summary of the analytical parameters used for this investigation are listed in Table 1. The analytical results have been summarized in Tables 2 and 3 are presented on and Figure 4. All sampling was conducted in accordance with the NJDEP-approved protocols previously submitted to NJDEP by Geraghty & Miller.

INSTALLATION AND REPAIR OF MONITORING WELLS

On December 13 and 14, 1990 three replacement monitoring wells (MW-2R, MW-3R, and MW-4R) were installed at the site. In addition, the inner casing of Monitoring Well MW-1, which was in disrepair, was replaced by threading a decontaminated four inch diameter PVC casing onto the existing well screen and completed as per NJDEP guidelines.

ATTACHMENT N"

All of the three newly installed replacement monitoring wells are located downgradient of the Monitoring Well MW-1. The locations of these monitoring wells are shown on Figure 1.

The boreholes in which monitoring wells have been installed were drilled by the hollow stem auger method by a licensed driller of Environmental Drilling, Inc. of West Creek, New Jersey. The hollow stem auger utilized had a $6\text{-}^{5}/_{8}$ inch inner diameter and made a borehole of approximately twelve inches in diameter. Continuous split spoon samples were collected from the entire depth of Monitoring Wells MW-2R and MW-4R, no split spoon samples were collected from Monitoring Well MW-3R. All three monitoring well boreholes were advanced to a depth of 14 feet. Drilling and monitoring well installation were performed under the supervision of a Geraghty & Miller hydrogeologist. Boring logs and well construction diagrams are presented in Appendices C and D.

The monitoring wells were constructed using four-inch diameter, flush-jointed, schedule 40 PVC casings and coupled to 20 slot, schedule 40 PVC screens. The screen lengths are 12 feet at well locations HW2R, 3R, and 4R. The tops of the well casings were placed at least several inches above the ground water table to detect any floating product, if present. In each well, a sand pack consisting of #1 Morie sized sand was emplaced in the annular space around the four-inch screen, extending from the bottom of the borehole to three-inches above the top of the well screen. A layer of bentonite pellets, three-quarters of a foot thick, was placed in the annular space above the sand pack. The total depth of each is 14 feet below grade. A 6-inch diameter protective steel casing with a locking cap was cemented in the ground around the PVC casing of each well. Well construction details are summarized in Table 4, and NJDEP monitoring well certification forms A and B are presented in Appendix E.

Following the installation of the monitoring wells, each well was developed by the pump and surge method. A submersible pump was operated in each well for at least 1/2

ATTACHMENT N12

hour to remove the fine-grained materials from the sand pack and adjacent formation to facilitate the hydraulic conductivity between the wells and the formation.

ABANDONMENT OF EXISTING MONITORING WELLS

As directed by the NJDEP, Monitoring Wells MW-2 and MW-4 were to be abandoned as part of the present investigation as proposed in the Sampling Plan Addendum of May 1990. After on-site inspection, Monitoring Well MW-3 was found to be backfilled with sediment and soil to approximately 4 feet below the top of the inner 4-inch diameter PVC casing. Upon consultation with Josh Gradwohl, the NJDEP case manager, this well was also decided to be abandoned in place and replaced with MW3R.

Abandonment of monitoring wells occurred on December 12, 1990. The monitoring well abandonment was performed by a licensed New Jersey well driller in the employment of Environmental Drilling, Inc. under the supervision of a hydrogeologist from Geraghty & Miller. Monitoring well abandonment was performed by pressure grouting a bentonite/ cement slurry down into the monitoring well's 4-inch diameter, and then removing the above-ground protective casing and inner PVC casing. The cement seal was brought up to the ground surface at each location. The previous location of monitoring well MW4 could not be located and therefore could not be abandoned properly. The replacement well MW4R was positioned as close as possible to where the previous location might have been situated approximately 10 - 15 feet from the previous location.

GROUND WATER SAMPLING

On December 31, 1990, Geraghty & Miller sampled the three monitoring wells, MW-2R, MW-3R, and MW-4R, in accordance with the protocols approved by the NJDEP during the previous Geraghty & Miller investigation (Geraghty & Miller, Inc. 1987). A blind replicate sample was collected from Monitoring Well MW-3R, and was labelled MW-5R. In addition a field blank sample was also collected. Field parameters of ground water (pH

ATTACHMENT N13

value, temperature, and specific conductance) were also measured in each well. These measurements are summarized in Table 5. Geraghty & Miller's water sampling logs summarizing the well sampling conditions are attached as Appendix F. The collected ground-water samples, and the field blank and laboratory-prepared trip blank, were packed in ice and shipped via Geraghty & Miller's Chain-of-Custody to Envirotech Research, Inc. of Edison, New Jersey for analysis. The ground-water samples were analyzed for the parameters listed in Table 1. The analytical results for the ground-water samples have been summarized in Table 6.

WATER-LEVEL MEASUREMENTS

Two synoptic rounds of ground-water levels were measured in the four monitoring wells. The water-level measurement data are summarized in Table 7. The relative locations and elevations of the ground surface, the tops of the PVC well casings and steel protective casings were surveyed by a licensed New Jersey surveyor, GEOD Surveying and Aerial Mapping of Newfoundland, New Jersey. This survey data is also presented in Table 7. NJDEP well certification forms A and B which were generated by GEOD and Geraghty & Miller are presented in Appendix E.

SOIL QUALITY

The following sections represent findings regarding the post-excavation samples collected from excavation A, B, C, and D. A total of 27 soil samples were collected and analyzed by Envirotech Research, Inc. laboratory for the parameters listed in Table 3. All soil analytical data is summarized on Tables 5 and 6. The laboratory data sheets for soils and ground water samples are attached as Appendix G. The distribution of volatile organic compound (VOCs) (targeted and nontargeted) semi-volatile organic compounds (B/Ns), and total petroleum hydrocarbons (TPHCs) in the soils is presented in Figure 4. The interpretation of the analytical data (both soil and ground-water), focused only on the total

ATTACHMENT N14

targeted volatile organic and base/neutral compounds and not, in addition to, the non-targeted volatile organic and base/neutral compounds.

EXCAVATION AREA A

Because of the qualitative nature of the tentatively identified compounds, Geraghty & Miller did not use the estimated non-targeted concentrations in determining which samples exceeded NJDEP action levels. A general statement written by Envirotech Research, Inc. laboratory regarding validity of the tentatively identified compounds for both VOCs and B/Ns is attached as Appendix H.

A total of four soil samples were taken in and around excavation Area A. Two of these are post-excavation samples and the remaining two (SA-1 and SA-2) are from locations surrounding the excavation. The two post-excavation samples (A-9 and A-10) were analyzed for volatile organic compounds plus 15 additional peaks (VOC+15), base/neutral plus 15 additional peaks (B/N+15), and total petroleum hydrocarbons (TPHC). The two additional samples surrounding the excavation were analyzed only for TPHC.

The two post-excavation soil samples (A-9 through A-10) taken for VOC + 15 analysis showed the presence of 1,1,1-trichloroethane at estimated concentrations of .018ppm (18 ppb) and .019 ppm (19 ppb), respectively. This compound was also detected in the laboratory blank and therefore does not suggest that 1,1,1-trichloroethane is present in the soil samples but rather a possible laboratory contaminant. Nonetheless, the VOC concentrations detected in soil samples are below the NJDEP action level of 1 ppm for soils.

B/N+15 results of the soil sample from Excavation Area A revealed the presence of several B/N compounds as shown in Tables 5 and 6. It is to be noted that the concentration levels shown for each of these compounds are estimated values only and are not to be used quantitatively. At location A-9, the estimated total concentrations for all of the targeted B/N compounds, non-targeted compounds, and carcinogenic polycyclic aromatic

hydrocarbons (CaPAHs) are 31.71 ppm (31,710 ppb), 42.5 ppm (42,500 ppb) and 14.12 ppm (14,120 ppb), respectively. At location A-10, the total estimated concentrations for targeted, non-targeted, and CaPAH's are 15.05 ppm (15,050 ppb), 18.2 ppm (18,200 ppb) and 7.04 ppm (7,040 ppb), respectively.

Only at location A-9 did the total CaPAH concentrations exceed the NJDEP action level of 10 ppm for soils. However, as mentioned previously, these are estimated concentrations only. At location A-10, the total CaPAH concentrations were below the action level. It is tho be mentioned here that the total targeted B/Ns are below 100 ppm.

The post-excavation soil samples A-9 and A-10 showed TPHC levels of 4,510 ppm and 2470 ppm, respectively. Samples SA-1, and SA-2, showed TPHC levels of 2200 ppm and 224 ppm, respectively.

EXCAVATION AREA B

Five post-excavation soil samples (B-9, B-10, B-11, and B-12) were taken from Excavation B and were analyzed for VOCs, B/Ns and TPHCs. During analysis for VOC parameters, one or more of the following detected compounds, ethyl benzene, 1,1,1-trichloromethane (which was also detected in the laboratory blank), total xylenes, and trichlorofluoromethane were identified in the soil samples and were reported as estimated concentrations. Based on the sampling results, none of the soil samples from these locations exceeded the NJDEP action level of 1 ppm for total VOCs. The targeted VOC results for sample B-11 indicated the presence of ethyl benzene with an estimated concentration of .25 ppm (250 ppb).

Base/Neutral +15 analysis was also performed on the post-excavation soil samples taken from Excavation B. The compounds detected during analysis included naphthalene, bis (2-ethylhexyl) phthalate, acenaphthylene, acenaphthene, fluorene, phenanthrene, benzo (a) pyrene, indeno (1, 2, 3 - c, d) pyrene, dibenzo (a, h) anthracene, and benzo (ghi)

ATTACHMENT N16

perylene. CaPAHs were found to be present soil sample B-10 at a concentration of 14.58 ppm (14,580 ppb). The B/N results for location B-11 revealed concentrations of targeted compounds at 31.610 ppm (31,610 ppb). The results for B-12 showed that the total targeted B/N compounds, and the CaPAHs occur at concentrations of 224.11 ppm (224,110 ppb) and 36.7 ppm (36,700 ppb), respectively. Majority of the targeted B/N results for soil samples from locations B-9, B-10, and B-11 were reported as estimated concentrations.

Four post excavation soil samples and four additional soil samples, taken around the of the perimeter excavations, were analyzed for TPHC. In all of the soil samples collected in area B, TPHC concentrations were in excess of the NJDEP 100 ppm established guideline (with the except in of SB-4 which had a concentration of 47 ppm). The soil samples taken from locations B-9, B-10, B-11, B-12, SB-3, SB-5, and SB-6 had TPHC concentrations at 3310 ppm, 10700 ppm, 790 ppm, 469 ppm, 423 ppm, and 2760 ppm, respectively.

EXCAVATION AREA C

A total of four post-excavation soil samples (C-9, C-10, C-11, and C-12) were taken from this area and analyzed for VOC +15, BN +15, and TPHC. An additional three soil samples (SC-7, SC-8, and SC-9) were taken from the area surrounding this excavation and analyzed for TPHC only.

The analytical results showed the presence of three targeted VOCs: toluene, ethyl benzene, and xylenes (total). In the sample from location C-9, toluene was the only detected targeted VOC at a concentration of 17 ppm (17,000 ppb). At locations C-10, C-11, and C-13 the total targeted VOCs were below the NJDEP action levels. At location C-12, the soil sample results indicated the presence of ethyl benzene and the combined concentration of toluene, and xylenes (total) 21.9 ppm (21,900 ppb).

The results of the B/N analysis showed that soil samples designated C-9, C-11, and C-12 total targeted B/N concentrations of 13.5 ppm (13,500 ppb), 19.54 ppm (19,540 ppb)

ATTACHMENT N17

and 116.97 ppm (116,970 ppb), respectively. However, in samples C-9 and C-11, results for a large number of targeted compounds were reported as estimated concentrations. Sample results from C-12 showed only minor estimated values. At location C-12, the total concentration of the CaPAH compounds (chrysene, benzo (a) anthrocene, benzo (b) fluoranthene, benzo (a) pyrene, indeno (1, 2, 3 - C,d) pyrene, and dibenzo (a,h) anthracene) detected was 45 ppm (45,000 ppb).

The TPHC concentrations from all seven of the above sampling locations ranged from a minimum of 151 ppm at location SC-8 to a maximum of 19,900 ppm at location C-12.

EXCAVATION AREA D

A total of three post-excavation soil samples were taken from area D and analyzed for VOCs, B/N, and TPHCs. An additional three soil samples were taken around the perimeter of the excavation and analyzed only for TPHC.

The results of the VOCs analysis revealed that one or more of the following compounds were detected in the post-excavation soil samples. These compounds included trans-1,2-dichloroethene, ethyl benzene, toluene, 1,1,1-trichloroethane (which was also identified in the laboratory blank), and xylenes (total). At locations D-7 and D-9, the targeted VOCs are below the 1 ppm action level. Analysis of the soil sample designated D-8 showed the total targeted VOC concentrations to be 31 ppm (31,000 ppb).

Sample D-7 had a CaPAH concentration of 2.37 ppm (2,370 ppb), and a total targeted B/N concentration of 9.4 ppm (9,400 ppb). Sample D-8 had CaPAH concentration of 22.45 ppm (22,450 ppb) and a total targeted B/N concentration of 74.500 ppm (74,500 ppb). However, several of these compounds in these samples were reported as estimated values (see Table 6).

ATTACHMENT N13

All of the soil samples in and around in this excavation area had TPHC concentrations ranging from a minimum of 406 ppm in sample SD-10 to a maximum of 10,900 ppm in sample SD-11.

GROUND-WATER QUALITY

The three replacement monitoring wells MW-2R, MW-3R, and MW-4R were sampled for VOC+15, B/NA+25, and TPHC. A duplicate sample identified as MW-5R was collected from monitoring well MW-3R. The results of the duplicate samples were consistent with the results obtained from well MW-3R. The summary of the analytical data for the ground water samples is presented in Table 6 and the data are displayed in Figure 5.

Two targeted VOCs were identified in the ground-water samples. Trans-1,2-dichloroethene was detected in the sample acquired from MW-3R. Toluene was detected at MW-4R. Methylene chloride was detected in the field blank and could be attributed to laboratory contamination. Analytical data for the ground water samples show that VOCs detected in all samples are below the NJDEP action level of 10 ppb for VOCs.

Five targeted B/NA compounds were identified in the ground-water samples. The compounds identified included naphthalene, acenaphthylene, acenaphthene, fluorene, and phenanthrene. However, the concentration of all of these were reported as estimated values. The total targeted B/NA+15 concentrations, range between 0.87 ppb at MW-2R and 11.90 ppb at MW-4R. Based on the analytical results, none of the ground water samples exceeded the NJDEP action level of 50 ppb for B/NAs.

All three replacement monitoring wells were also sampled for TPHC. Results indicate that PHCs were not present in the ground water.

N19

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations present in this submittal are based on data acquired from this investigation as well as the evaluations made in the previously submitted reports for the Guignon & Green site in Kearny, New Jersey. These conclusions are presented below:

(1) The site is located in a highly industrialized and commercialized area in which contamination incidents have been reported in the past and are currently under investigation by the NJDEP.

(2) The site lies in a swampy area characterized by low topographic relief and poor drainage. In the past, it has been noted that flooding has occurred over the study area and thus the site is prone to the influx of potential off-site contaminants.

(3) Ponding, in the area immediately adjacent and to the south the site, is due to poor surface water drainage and is believed to have reversed the ground-water flow direction to the northeast in the southeastern portion of the site. This indicates that the upper permeable zone beneath the site is hydraulically connected to the offsite ponded area.

(4) VOC, B/N, and TPHC contamination in the study area is primarily confined to the near surface soils. A total of 14 soils samples were collected from various locations at the site for analysis of volatile organic compounds and base/neutral compounds. Of these totals, only five sampling locations (A-9, B-12, C-12, D-7, and D-8) exceeded the guidelines established by NJDEP for base/neutrals detected in soil samples. The concentrations detected in these samples reflected only the total targeted base/neutrals. Of these five soil sampling locations, only sample D-8 showed targeted VOC concentration

levels in excess of the NJDEP guidelines for volatile organic compounds in soils.

(5) Borings completed during the installation of the monitoring wells revealed the presence of a near-surface clay and peat layer present at all of the monitoring well locations. This ubiquitous clay layer provides an excellent barrier in preventing soil contamination from being leached into the ground-water zone. The soil contaminants, particularly the B/N compounds, have a strong tendency to be absorbed into clays. The clay layer(s) will behave as filters removing contaminants from solution. This appears to be the dominant transport fate of the B/Ns at the Guignon & Green site. The soils contain high concentrations of the total targeted B/Ns, whereas the ground waters only contain minor amounts of total targeted B/NAs well below the NJDEP action levels. A similar scenario is also applicable for the VOCs in soils and ground water.

(6) The distribution of TPHCs in the soils at the site do not bear any discernible relationship to the proximity of the areas of concern (Excavations A, B, C and D). Also, the degree of TPHC contamination in soils does not correlate with the VOC/BN levels in soils. Further, the groundwater in the upper permeable zone does not show contamination by petroleum hydrocarbons (PHCs).

(7) A recent property survey indicated that the oil-spill, which occurred in May 1990, plots outside the Guignon & Green property boundaries. As such, the oil-spill is no longer considered as a site-related issue. However, the wood-chips that were spread prior to the occurrence of oil spill in its proximity by

ATTACHMENT 10-21

the current tenant of the site should be sampled for waste classification parameters to dispose of in an appropriate manner.

Based on the evaluations presented in this report, an additional round of sampling of the groundwater monitoring wells is recommended to confirm the absence of impacts of site soil contamination in the groundwater. Since the petroleum hydrocarbon distribution in soils show no regular trend with respect to the areas of concern, delineation of TPHCs throughout the site to 100 ppm level cannot be accomplished. Additionally, as indicated by the results of this investigation, the site groundwater is not impacted. As such, it is believed that no additional excavation of the site soils would be required. However, paving of the contaminated areas (at discrete locations) will be considered to prevent any direct infiltration of surface runoff and rain water.

Respectively Submitted,
GERAGHTY & MILLER, INC.

Luke Chen
Staff Engineer

Thomas Voss
Project Scientist/Hydrogeologist

B. V. Rao, PhD, PG
Associate/Office Manager

G&G tv:amk
NJ03502/022191

ATTACHMENT N22

REFERENCES

Argon, S.L. 1980. Environmental Geology: Hackensack Meadowlands, from Manspeizer, W., Field Studies of New Jersey Geology and Guide to Field Trips, 52nd Annual Meeting of the New York State Geological Association, pp. 216-244.

Geraghty & Miller, Inc. 1986a. ECRA Assessment Sampling Plan, Guignon & Green Company Facility, Kearny, New Jersey.

Geraghty & Miller, Inc. 1986b. Letter to M. Metlitz, Bureau of Industrial Site Evaluation, New Jersey Department of Environmental Protection, October 9, 1986.

Geraghty & Miller, Inc. 1987. Letter to M. Metlitz, Bureau of Industrial Site Evaluation, New Jersey Department of Environmental Protection, February 26,1987.

Geraghty & Miller, Inc. 1988a. Results of the ECRA Site Investigation at the Guignon & Green Facility, Kearny, New Jersey, June 1988.

Geraghty & Miller, Inc. 1988b. Letter to B. Fresco, Industrial Site Evaluation Element, New Jersey Department of Environmental Protection, November 3, 1988.

Geraghty & Miller, Inc. 1989a. ECRA Cleanup Plan for the Guignon & Green Facility, Kearny, New Jersey, April 1989.

Geraghty & Miller, Inc. 1989b. Letter to B. Fresco, Bureau of ECRA Applicability and Compliance, New Jersey Department of Environmental Protection, November 16, 1989.

Geraghty & Miller, Inc. 1990. Sampling Plan Addendum, Guignon & Green Site, Kearny, New Jersey.

Lyttle, P.T. and J.B. Epstein. 1987. Geologic Map of the Newark 1° x 2° Quadrangle, New Jersey, Pennsylvania and New York: U.S. Geologic Survey Map I-1715.

New Jersey Geological Survey. 1959. Department of Environmental Protection. Bedrock Map of the Hackensack Meadows, Geological Report Series No.1.

Pompeo, D. 1990. Acting Chief, Bureau of Environmental Evaluation and Cleanup Responsibility Assessment, Letter to R. Frazier, Frazier & Frazier Attorneys at Law, October 4, 1990.

Stat of New Jersey. 1968. Department of Conservation and Economic Development, Division of Water Policy and Supply. Ground-Water Resources of Essex County, New Jersey.

ATTACHMENT 10-2

Table 1. Summary of Analytical Parameters Performed at the Former Guignon & Green Site, Kearny, New Jersey.

	Analytical Parameters
Ground Water:	
MW-2R	VOC+15, BNA+25 & PHC
MW-3R	VOC+15, BNA+25 & PHC
MW-4R	VOC+15, BNA+25 & PHC
MW-5R (Duplicate of MW-3R)	VOC+15, BNA+25 & PHC
Field Blank (FB-100)	VOC+15, BNA+25 & PHC
Trip Blank (TB-100)	VOC+15
Soil:	
Field Blank (FB-102)	VOC+15,BN+15 & PHC
A-9	VOC+15, BN+15 & PHC
A-10	VOC+15, BN+15 & PHC
B-9	VOC+15, BN+15 & PHC
B-10	VOC+15, BN+15 & PHC
B-11	VOC+15, BN+15 & PHC
B-12	VOC+15, BN+15 & PHC
C-9	VOC+15, BN+15 & PHC
C-10	VOC+15, BN+15 & PHC
C-11	VOC+15, BN+15 & PHC
C-12	VOC+15, BN+15 & PHC
C-13	VOC+15, BN+15 & PHC
D-7	VOC+15, BN+15 & PHC
D-8	VOC+15, BN+15 & PHC
D-9	VOC+15, BN+15 & PHC
Field Blank (FB-01)	VOC+15, BN+15 & PHC
SA-1	PHC
SA-2	PHC
SB-3	PHC
SB-4	PHC
SB-5	PHC
SB-6	PHC
SC-7	PHC
SC-8	PHC
SC-9	PHC
SD-10	PHC
SD-11	PHC
SD-12	PHC

NJ03502/Table5

ATTACHMENT N24

Table 2. Summary of Total VOCs in Soil Samples, Former Guignon & Green Site, Kearny, New Jersey. (cont'd)

Sample I.D.:	C-13	D-7	D-8	D-9	SA-1	SA-2	SB-3	SB-4	SB-5	SB-6	SC-7	SC-8	SC-9	SD-10	SD-11	SD-12
Sampling Interval: (feet below surface)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0
Matrix:	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sampling Date:	12/14/90	12/13/90	12/13/90	12/13/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90
Volatile Organics (ppb):																
Trans-1,2-Dichloroethene	ND	ND	140(J)	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	ND	ND	940	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	230(J)	ND	29,000	12(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	ND	18(JB)	ND	19(JB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	ND	ND	920	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Targeted VOCs (ppb):	230	ND	31,000	332	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Non-Targeted VOCs (ppb):	511,400	2,416	>762,980	23,870	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs (ppb):	511,630	2,416	>793,980	24,202	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ND The compound was not detected at the indicated concentration.

NA The compound was not analyzed.

B The analyte was found in the laboratory blank as well as the samples. This indicates possible laboratory contamination of the environmental sample.

J Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

VOCs were analyzed by the procedures specified by U.S. EPA Method 8240.

NJ03502/VBTGWSS

ATTACHMENT N25

Table 2. Summary of Total VOCs in Soil Samples, Former Guignon & Green Site, Kearny, New Jersey.

Sample I.D.:	FB-01	FB-102	A-9	A-10	B-9	B-10	B-11	B-12	C-9	C-10	C-11	C-12
Sampling Interval: (feet below surface)	---	---	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0
Matrix:	Water	Water	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sampling Date:	12/13/90	12/14/90	12/14/90	12/14/90	12/13/90	12/13/90	12/13/90	12/13/90	12/14/90	12/14/90	12/14/90	12/14/90
Volatile Organics (ppb):												
Trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND	ND	250(J)	6.5(J)	ND	ND	ND	4800(J)
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	17,000	200(J)	ND	5100(J)
1,1,1-Trichloroethane	ND	ND	18(JB)	19(JB)	21(JB)	20(JB)	ND	18(JB)	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	16(J)	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	21(J)	ND	ND	ND	12,000
Total Targeted VOCs (ppb):	ND	ND	ND	ND	16	ND	250	27.5	17,000	200	ND	21,900
Total Non-Targeted VOCs (ppb):	ND	ND	ND	ND	ND	33	649,300	ND	19,588,000	14,680	7,470,000	>4,993,000
Total VOCs (ppb):	ND	ND	ND	ND	16	33	649,550	27.5	19,605,000	14,880	7,470,000	>5,014,900

Notes:

ND The compound was not detected at the indicated concentration.

NA The compound was not analyzed.

B The analyte was found in the laboratory blank as well as the samples. This indicates possible laboratory contamination of the environmental sample.

J Mass spectral data indicates the presence of a compound that meets the identification criteria.
The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

VOCs were analyzed by the procedure specified by U.S. EPA Method 8240.

NJ03502/VBTGWSS

ATTACHMENT N26

Table 3. Summary of Total B/Ns and TPHC in Soil Samples, Former Guignon & Green Site, Kearny, New Jersey. (cont'd)

Sample I.D.:	C-13	D-7	D-8	D-9	SA-1	SA-2	SB-3	SB-4	SB-5	SB-6	SC-7	SC-8	SC-9	SD-10	SD-11	SD-12
Sampling Interval: (feet below surface)	0-0.5	0.25-0.75	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Matrix:	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sampling Date:	12/14/90	12/13/90	12/13/90	12/13/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90	12/12/90
Base/Neutral (ppb):																
Naphthalene	160(J)	230(J)	1800(J)	260(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-ethylhexyl) phthalate	400	1600(J)	ND	800(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	110(J)	110(J)	800(J)	400(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	230(J)	100(J)	1000(J)	110(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	270(J)	210(J)	1700(J)	480(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1600	880(J)	10000(J)	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	460	170(J)	2200(J)	480(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2000	1400(J)	14000(J)	5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1700	1300(J)	12000(J)	4600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	410	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	980	650(J)	5800(J)	130(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibutyl phthalate	50(J)	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a) anthracene	910	470(J)	5400(J)	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b) fluoranthene	1300	890(J)	7900(J)	4100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a) pyrene	820	510(J)	5000(J)	1700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno (1,2,3-c,d) pyrene	520	380(J)	3200(J)	1800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo (a,h) anthracene	180(J)	120(J)	950(J)	480(J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (ghi) perylene	520	380(J)	3000(J)	1800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Targeted Base/Neutral (ppb):	12,620	9,400	74,750	26,540	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Non-Targeted Base/Neutral (pp	18,460	119,600	2,733,000	47,880	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Base/Neutral (ppb):	31,080	129,000	2,807,750	74,420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons (ppm):	287	418	1350	1580	2200	224	469	47	423	2760	1300	151	165	406	10900	775

Notes:

ND The compound was not detected at the indicated concentration.

NA The compound was not analyzed.

B The analyte was found in the laboratory blank as well as the samples. This indicates possible laboratory contamination of the environmental sample.

J Mass spectral data indicates the presence of a compound that meets the identification criteria.
The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

B/Ns were analyzed by the procedures specified by U.S. EPA Method 8270.

TPHC were analyzed by the procedures specified by U.S. EPA Method 3540 and 418.1.

ATTACHMENT IV-2

NJ03502/VBTGWSS

Table 3. Summary of Total B/Ns and TPHC in Soil Samples, Former Guignon & Green Site, Kearny, New Jersey.

Sample I.D.:	FB-01	FB-102	A-9	A-10	B-9	B-10	B-11	B-12	C-9	C-10	C-11	C-12
Sampling Interval: (feet below surface)	---	---	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Matrix:	Water	Water	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sampling Date:	12/13/90	12/14/90	12/14/90	12/14/90	12/13/90	12/13/90	12/13/90	12/13/90	12/14/90	12/14/90	12/14/90	12/14/90
Base/Neutral (ppb):												
Naphthalene	ND	ND	ND	210(J)	160(J)	380(J)	820(J)	410(J)	4900(J)	58(J)	1800(J)	6000(J)
Bis (2-ethylhexyl) phthalate	3.9(J)	ND	ND	ND	970(J)	1900(J)	ND	3200(J)	ND	210(J)	5500(J)	890(J)
Acenaphthylene	ND	ND	ND	310(J)	220(J)	390(J)	ND	2200(J)	ND	170(J)	ND	2700(J)
Acenaphthene	ND	ND	390(J)	190(J)	140(J)	560(J)	720(J)	5300(J)	ND	42(J)	ND	880(J)
Fluorene	ND	ND	ND	ND	200(J)	670(J)	2900(J)	2000(J)	ND	40(J)	ND	1800(J)
Phenanthrene	ND	ND	4100(J)	1500(J)	1600(J)	4400	7900(J)	9600	2400(J)	580	2700(J)	11000
Anthracene	ND	ND	900(J)	500(J)	570(J)	1200(J)	2600(J)	2900(J)	ND	250(J)	430(J)	2900(J)
Fluoranthene	ND	ND	5600(J)	2400(J)	2800	5800	3900(J)	33000	2600(J)	1100	2300(J)	17000
Pyrene	ND	ND	4800(J)	1900(J)	2500	4700	3800(J)	20000	ND	1000	1900(J)	19000
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	2500(J)	1300(J)	1400(J)	2800(J)	2100(J)	14000	1400(J)	660	1200(J)	7800
Dibutyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) anthracene	ND	ND	2100(J)	1100(J)	1200(J)	2600(J)	1600(J)	7000(J)	ND	560	ND	6800
Benzo(b) fluoranthene	ND	ND	4900(J)	1900(J)	2200	4200	2400(J)	18000	2200(J)	960	1300(J)	11,000
Benzo(a) pyrene	ND	ND	2300(J)	1300(J)	1200(J)	2600(J)	1100(J)	4600(J)	ND	780	900(J)	9400
Indeno (1,2,3-c,d) pyrene	ND	ND	1900(J)	1000(J)	990(J)	1800(J)	900(J)	4200(J)	ND	730	690(J)	8300
Dibenzo (a,h) anthracene	ND	ND	420(J)	440(J)	280(J)	580(J)	ND	1500(J)	ND	190(J)	ND	1700(J)
Benzo (ghi) perylene	ND	ND	1800(J)	1000(J)	980(J)	1900(J)	870(J)	3500(J)	ND	690	820(J)	9800
Total Targeted Base/Neutral (ppb):	3.9	ND	31,710	15,050	17,410	36,480	31,610	131,410	13,500	8020	19,540	116,970
Total Non-Targeted Base/Neutral (pp	9	ND	42,500	18,200	26,970	53,400	2,794,000	92,700	15,530,000	14,540	2,598,000	11,909,000
Total Base/Neutral (ppb):	12.9	ND	74,210	33,250	44,380	89,880	2,825,610	224,110	15,543,500	22,560	2,617,540	12,025,970
Total Petroleum Hydrocarbons (ppm):	ND	ND	4,510	2,470	950	3310	10700	790	1,310	278	6,310	19,900

Notes:

ND The compound was not detected at the indicated concentration.

NA The compound was not analyzed.

B The analyte was found in the laboratory blank as well as the samples. This indicates possible laboratory contamination of the environmental sample.

J Mass spectral data indicates the presence of a compound that meets the identification criteria.

The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

B/Ns were analyzed by the procedures specified by U.S. EPA Method 8270.

TPHC were analyzed by the procedures specified by U.S. EPA Method 3540 and 418.1.

ATTACHMENT IV-23

NJ03502/VBTGWSS

Table 4. Well Construction Details at Former Guignon & Green Site, Kearny, New Jersey.

Well Number	Date Installed	Casing and Screen Diameter (inches)	Casing and Screen Material	Depth of Boring (feet, bls)	Screen Interval (feet, bls)	Screen Slot Size (inches)	Bentonite Pellets (feet, bls)
MW-2R	12/13/90	4	PVC	14	1.0-13.0	0.020	0.0-0.75
MW-3R	12/14/90	4	PVC	14	1.0-13.0	0.020	0.0-0.75
MW-4R	12/13/90	4	PVC	14	1.0-13.0	0.020	0.0-0.75

bls - Below land surface

NJ03502/Table1

ATTACHMENT IV 29

Table 5. Summary of Field Parameter Measurements at Former Guignon & Green Site, Kearny, New

Well No.	pH	Specific Conductance (umhos/cm)	Temperature (in degrees centigrade)	Remarks
MW-2R	6.7	1,500	10.3	
MW-3R	6.5	1,200	9.1	Initial reading
MW-4R	10.7	850	8.4	
MW-2R	6.31	1,300	11.7	
MW-3R	-	-	-	after purged 5 gallons
MW-4R	11.6	2,000	5.6	
MW-2R	6.26	1,300	12.2	
MW-3R	-	-	-	after purged 10 gallons
MW-4R	11.68	1,500	7.0	
MW-2R	6.19	1,300	13.0	
MW-3R	6.43	1,500	11.5	after purged 15 gallons
MW-4R	11.60	1,700	9.7	
MW-2R	6.17	1,100	13.6	
MW-3R	6.55	1,500	12.0	after purged 20 gallons
MW-4R	-	-	-	
MW-2R	6.18	950	13.6	
MW-3R	6.56	1,500	11.9	after purged 25 gallons
MW-4R	-	-	-	
MW-2R	-	-	-	
MW-3R	6.56	1,500	11.7	after purged 30 gallons
MW-4R	-	-	-	

ATTACHMENT N30

NJ03502/Table4

Table 6. Summary of Total VOCs, BNAs and TPHC in Ground-Water Samples, Former Guignon & Green Site, Kearny, New Jersey.

Sample I.D.:	MW-2R	MW-3R	MW-4R	MW-5R(1)	FB-100	TB-100
Matrix:	Water	Water	Water	Water	Field Blank	Trip Blank
Sampling Date:	12/31/90	12/31/90	12/31/90	12/31/90	12/31/90	12/31/90
Volatile Organics (ppb):						
Trans-1,2-Dichloroethene	ND	5.0	ND	5.0(J)	ND	ND
Methylene Chloride	ND	ND	ND	ND	7.4	ND
Toluene	ND	ND	1.3(J)	ND	ND	ND
Total Targeted VOCs (ppb):	ND	5.0	1.3	5.0	7.4	ND
Total Non-Targeted VOCs (ppb):	3730	10	4	10	ND	ND
Total VOCs (ppb):	3730	15	5.3	15	7.4	ND
Base/Neutral-Acid Extractables (ppb):						NA
Naphthalene	ND	6.3(J)	8.3(J)	6.7(J)	ND	NA
Acenaphthylene	ND	ND	ND	0.63(J)	ND	NA
Acenaphthene	ND	1.1(J)	1.8(J)	1.3(J)	ND	NA
Fluorene	ND	ND	ND	1.2(J)	ND	NA
Phenanthrene	0.87(J)	0.87(J)	1.8(J)	1.4(J)	ND	NA
Total Targeted Base/Neutral-Acid Extractables (ppb):	0.87	8.27	11.9	11.23	ND	NA
Total Non-Targeted Base/Neutral-Acid Extractables (ppb):	6782	1294	471	1,240	ND	NA
Total Base/Neutral-Acid Extractables (ppb):	6782.87	1302.27	482.9	1251.23	ND	NA
Total Petroleum Hydrocarbons (ppm)	ND	ND	ND	ND	ND	NA

Notes:

ND The compound was not detected at the indicated concentration.

NA The compound was not analyzed.

B The analyte was found in the laboratory blank as well as the samples. This indicates possible laboratory contamination of the environmental sample.

J Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

VOCs were analyzed by the procedures specified by U.S. EPA method 624.

BNAs were analyzed by the procedures specified by U.S. EPA Method 625.

TPHC were analyzed by the procedures specified by U.S. EPA Method 418.1.

(1) MW5R is the duplicate sample of MW-3R.

NJ03502/Table2

ATTACHMENT N31

Table 7. Summary of Water-Level Measurements, Former Guignon & Green Site, Kearny, New Jersey.

Well No.	Elev. of Ground Surface (feet, msl)	Elev. of Measuring Pt. (feet, msl, top of PVC casing)	Elev. of top of Steel Casing (feet, msl)	12/31/90 Depth to Water (feet, bmp)	12/31/90 Water-Level Elevation (feet, msl)	2/15/91 Depth to Water (feet, bmp)	2/15/91 Water-Level Elevation (feet, msl)
MW-1	3.90	5.93	6.15	3.58	2.35	3.96	1.97
MW-2R	3.13	5.19	6.10	3.82	1.37	3.74	1.45
MW-3R	2.85	5.52	7.09	4.02	1.50	4.05	1.47
MW-4R	2.61	5.28	6.18	3.82	1.46	3.77	1.51

Notes:

bmp - Below measuring point.

msl - Mean sea level.

NJ03502/Table3

ATTACHMENT N32

APPENDIX B

SOIL PROFILE LOGS FOR ALL EXCAVATIONS

ATTACHMENT N33

APPENDIX B

SOIL PROFILE LOGS FOR ALL EXCAVATIONS

ATTACHMENT N34

GERAGHTY & MILLER, INC.
Environmental Services

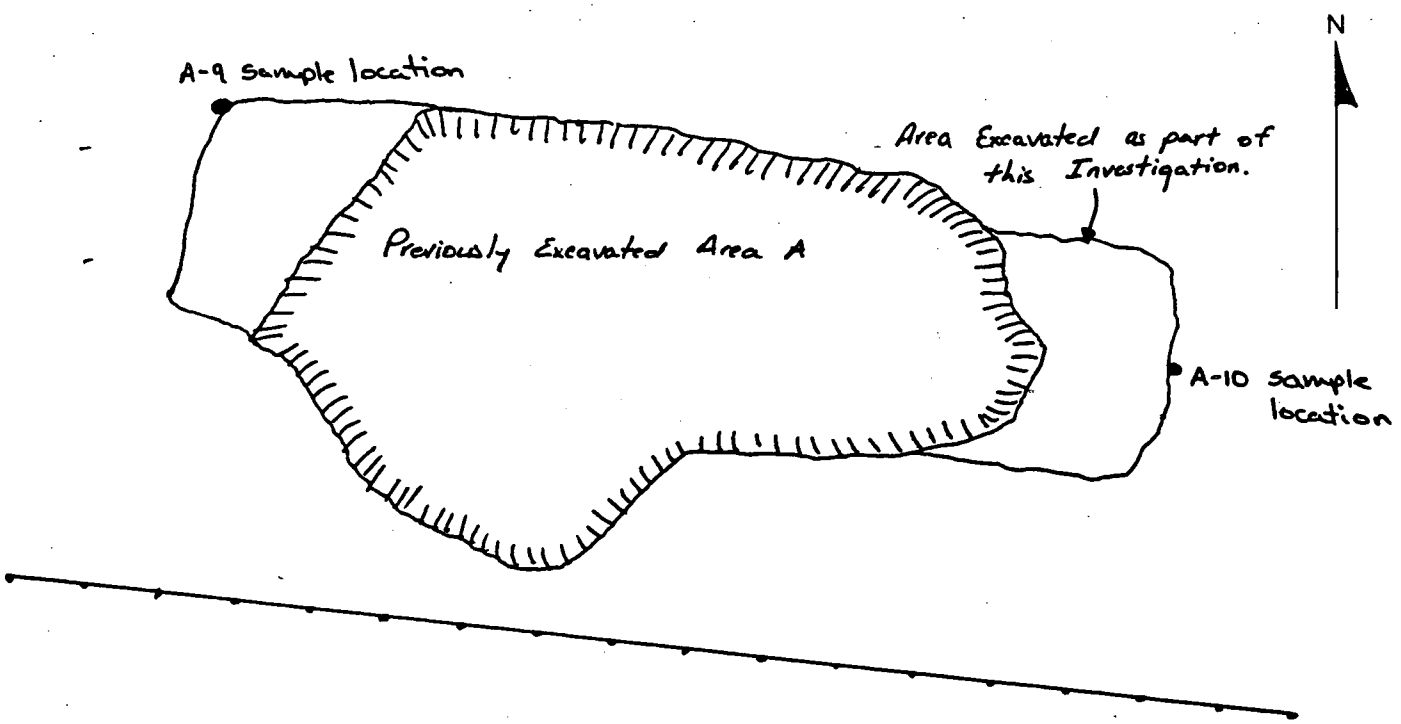
LOCATION SKETCH

~~Well(s)~~ Excavation A Project/No. Guignon & Green / NJ0350Z Page 1 of 2

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features)



Approximate Dimensions of Excavation:
Previous: (l x w x d) 12' x 22' x 2'
Present: (l x w x d) 12' x 26' x 3'

0 ft. 5 ft.

ATTACHMENT N35

GERAGHTY & MILLER, INC.
Environmental Services

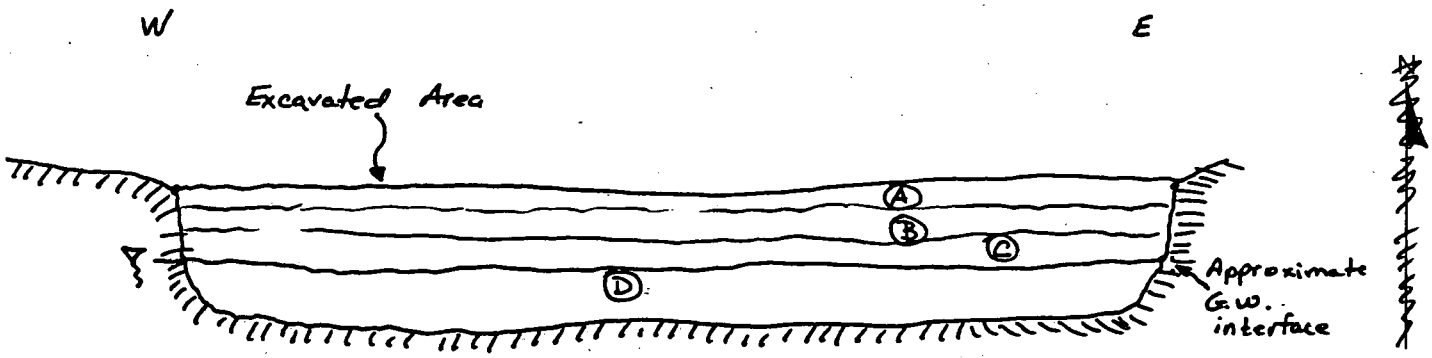
LOCATION SKETCH

~~Well(s)~~ Excavation A Project/No. Guignon & Green / NJ03502 Page 2 of 2

Site Location Kearny, New Jersey

Observer B. Buras

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features) Cross Sectional view looking North



Ground water encountered at 1.5' below ground surface.

Material: (A) FILL material: Material is predominately a Brown coarse-medium-fine SAND, little Silt. Pieces of brick, rock, and cobbles are present.

(B) .5' to 1.0' below ground surface is a Dark Brown to Black Silty medium to fine Sand.

(C) 1.0' to 1.5' below ground surface is a predominately Dark Gray Silty CLAY with fine Sand.

(D) From 1.5' to the bottom of the excavation is standing water which recharges as fast as pumped.

0 ft. 5 ft.

ATTACHMENT N36

GERAGHTY & MILLER, INC.
Environmental Services

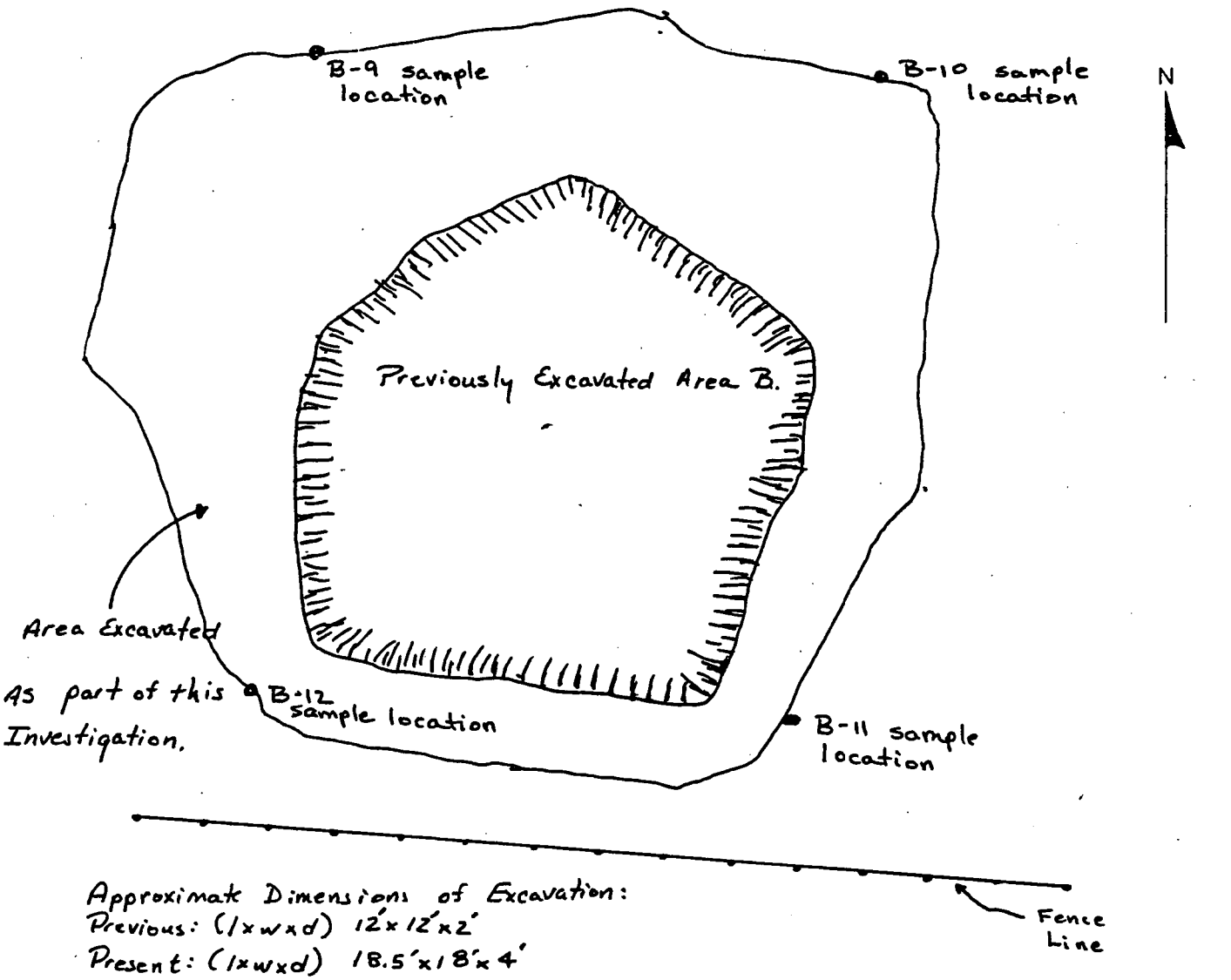
LOCATION SKETCH

Excavation
~~Well(s)~~ B Project/No. Guignon & Green / NJ03502 Page 1 of 2

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features)



ATTACHMENT N37

GERAGHTY & MILLER, INC.
Environmental Services

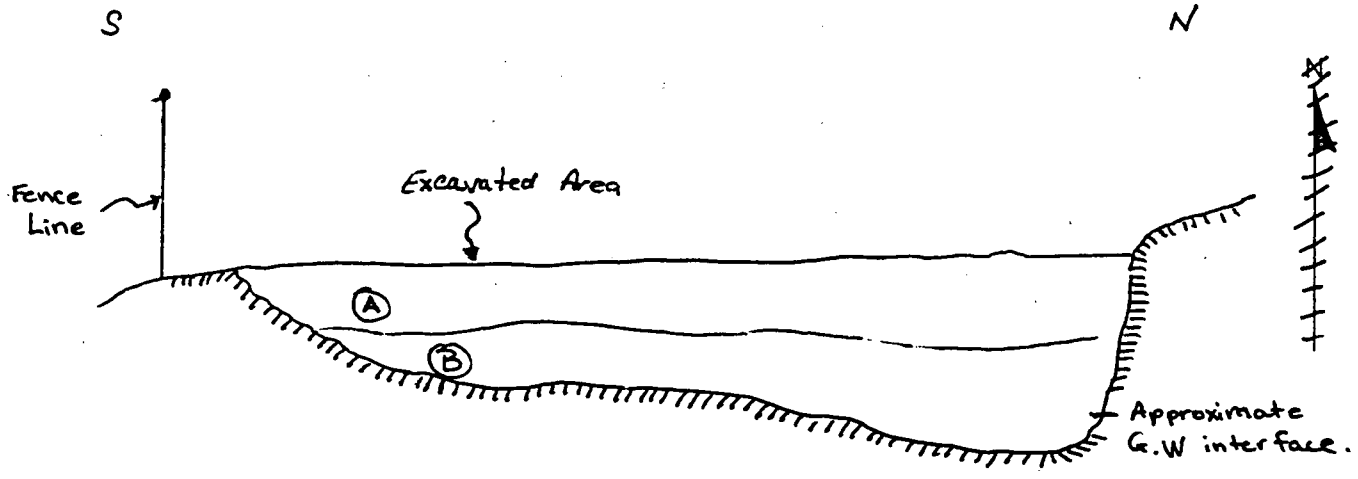
LOCATION SKETCH

Excavation
~~Well(s)~~ B Project/No. Guignon & Green Page 2 of 2

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features) Cross sectional view looking west.



Ground water encountered at approximately 3.5' below ground surface.

Material (A) Fill material: Material is predominately a Intermixed Gray, Brown, and Black Coarse-medium-fine SAND, some Coarse-medium-fine Gravel, Cobbles present, little Silt. Pieces of glass and brick are present. Approximately a 2' layer.

(B) Fill material: Dark Brownish Gray coarse-medium-fine SAND, some Coarse-medium-fine Gravel, cobbles present, little (+) Silt. Cobbles are pieces of Sandstone rich in mica, (Passaic Formation).

0 ft. 4 ft.

ATTACHMENT N38

GERAGHTY & MILLER, INC.
Environmental Services

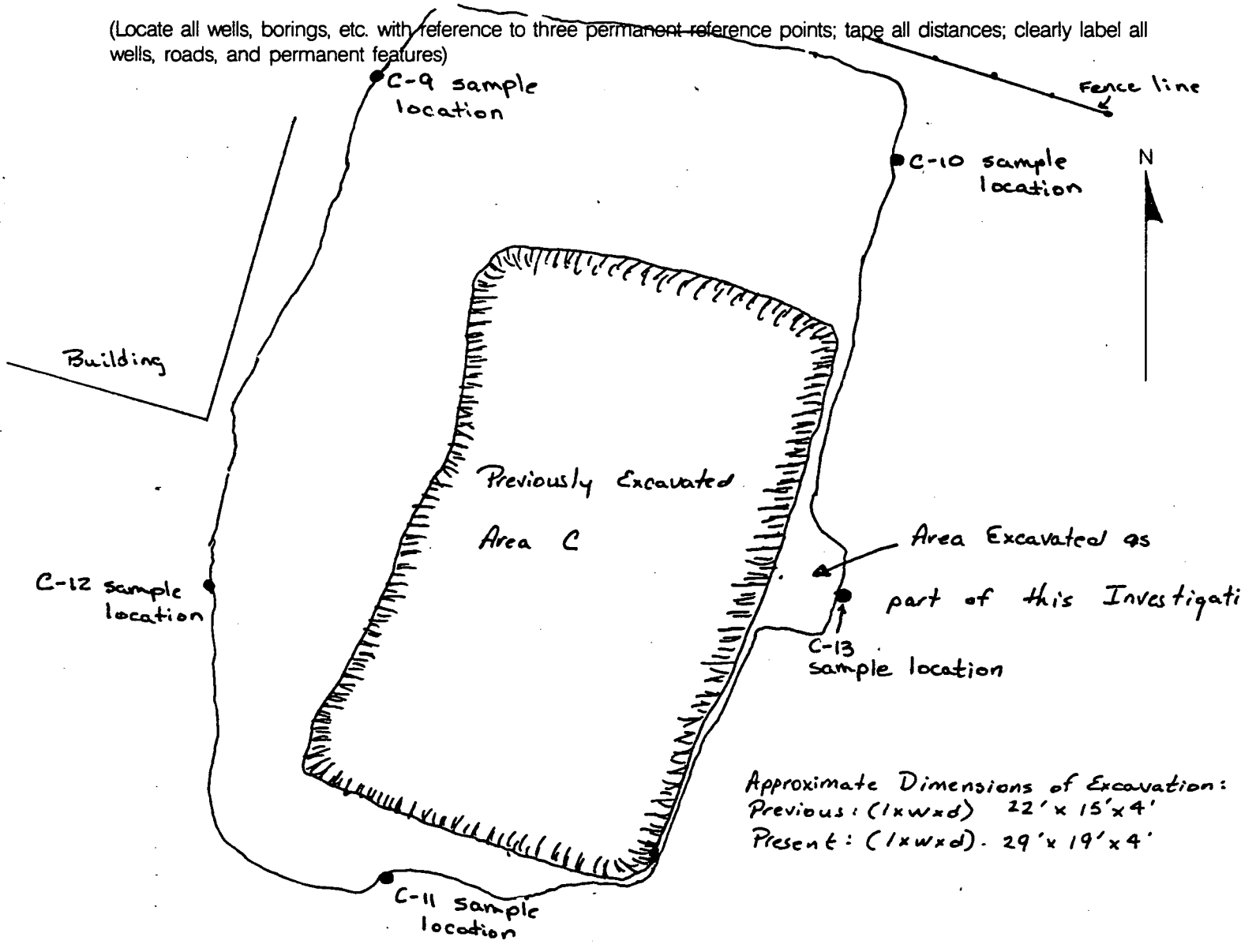
LOCATION SKETCH

Well(s) Excavation C Project/No. Guignon & Green / NJ03502 Page 1 of 2

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three ~~permanent reference~~ points; tape all distances; clearly label all wells, roads, and permanent features)



ATTACHMENT N39

GERAGHTY & MILLER, INC.
Environmental Services

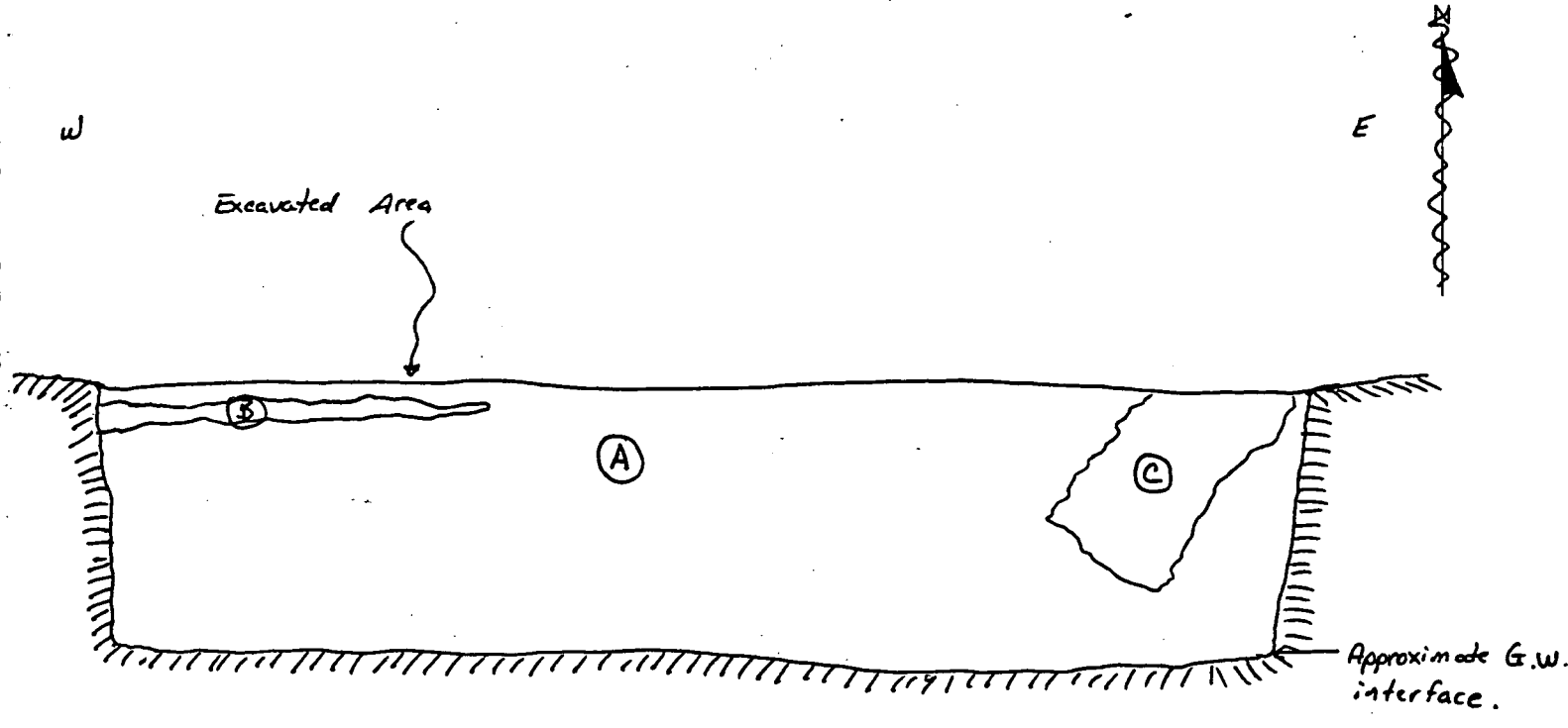
LOCATION SKETCH

~~Well(s)~~ Excavation C Project/No. Guignon & Green / NJ03502 Page 2 of 2

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features) Cross Sectional View looking north.



Groundwater encountered at approximately 4.0' below ground surface.
Material: Fill material: (A) Intermixed Dark Grayish Brown and Brown coarse-medium-fine SAND, some Clayey Silt, little coarse-medium-fine Gravel. Cobbles present. Pieces of metal found 1.8' below ground surface.
(B) Reddish Brown Silty CLAY.
(C) Yellow Brown coarse-medium-fine SAND, little Silt.
- Material observed is very wet. -

0 ft. 3 ft.

ATTACHMENT N40

GERAGHTY & MILLER, INC.
Environmental Services

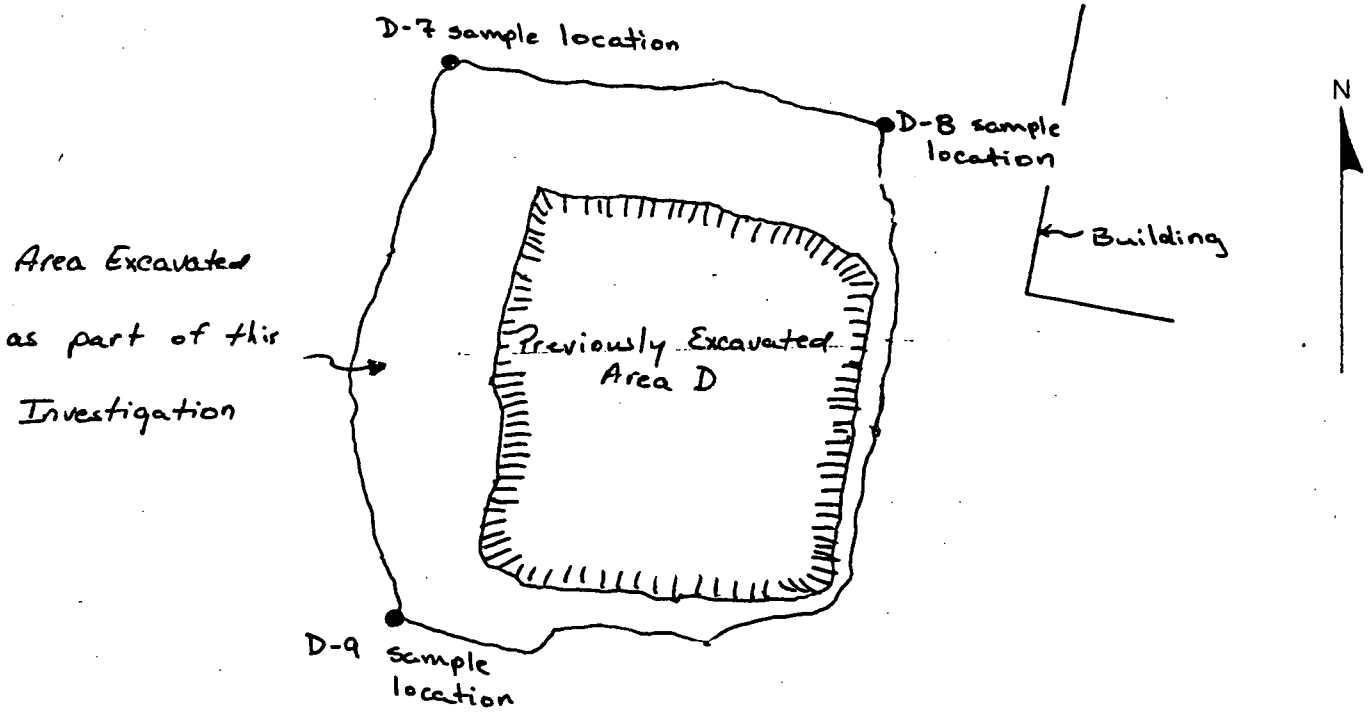
LOCATION SKETCH

~~Well(s)~~ Excavation D Project/No. Guignon & Green / NJ03502 Page 1 of 3

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features)



Approximate Dimensions of Excavation:
Previous: (lxwxd) 8' x 7.5' x 1.5'
Present: (lxwxd) 11' x 11.5' x 2.5'

0 ft. 4 ft.

ATTACHMENT N41

GERAGHTY & MILLER, INC.
Environmental Services

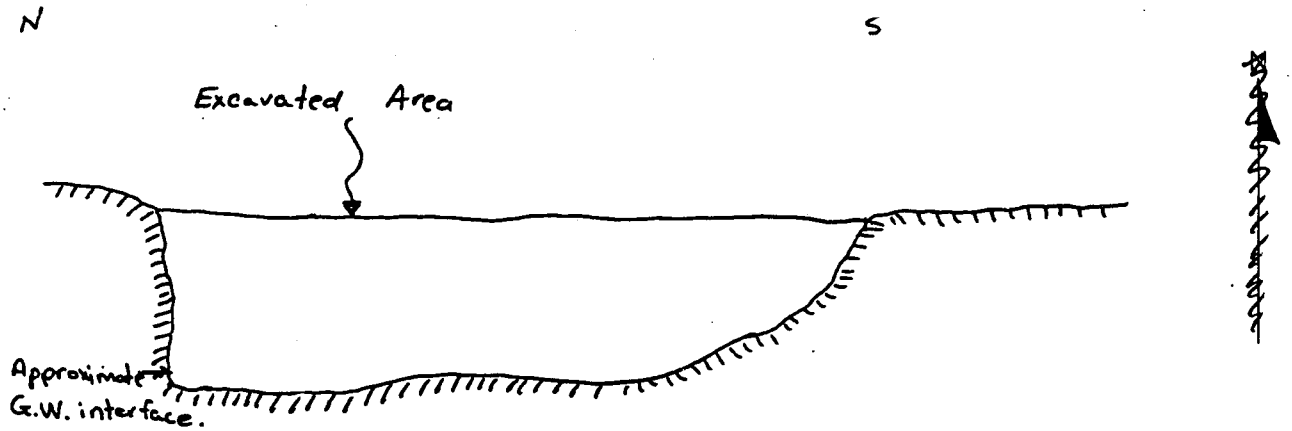
LOCATION SKETCH

~~Well(s)~~ Excavation D Project/No. Guignon & Green / NJ03502 Page 2 of 3

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features) Cross sectional View looking east



Ground water encountered at approximately 2.25' below ground surface.

Material: Fill material: Material is unstratified. Material consists predominately of a Intermixed Brown, Gray, and Reddish Brown coarse-medium-fine SAND, some Silt, some (-) medium-fine Gravel. Cobbles and pockets of Clayey SILT material are present.

0 ft. 3 ft.

ATTACHMENT N42

APPENDIX E

MONITORING WELL CERTIFICATION
FORM A AND FORM B

ATTACHMENT N43

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Guignon & Green
Name of Facility: Cali Carting
Location: 402 Bergen Avenue Kearny New Jersey 07032
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section (609-984-6831)):	26-233115-1
Owner's Well Number (As shown on the application or plans):	MW-2R
Well Completion Date:	December 13, 1990
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	2.06
Total Depth of Well (one-hundredth of a foot):	13.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	3.06
Screen Length (feet):	12.0
Screen or Slot Size:	.020
Screen or Slot Material:	PVC
Casing Material: (PVC, Steel or Other-Specify):	PVC
Casing Diameter (inches):	4
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	3.82
Yield (gallons per minute):	< 1
Length of Time Well Pumped or Bailed:	1 Hours 12 Minutes
Lithologic Log:	Attach

Authentication

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

RAO V. Bhagavathula
(B. V. Rao)
Name (Type or Print)

B. V. Rao
Signature

Seal

Certification or License No.

ATTACHMENT N44

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: MW-2R PROJECT NO: Guignon & Green/ NJ03502 PAGE: 1 of 2

SITE LOCATION: Kearny, New Jersey DRILLING STARTED: 12/13/90 DRILLING COMPLETED: 12/13/90

TOTAL DEPTH DRILLED: 14 ft. HOLE DIAMETER: 12 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon

LENGTH & DIAMETER OF CORING DEVICE: 2 ft/2 in. SAMPLING INTERVAL: Every 2 feet

LAND-SURFACE ELEVATION: 3.13 ft. {X} SURVEYED { } ESTIMATED DATUM: N.G.V.D. 1927

DRILLING FLUID USED: Not Applicable DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: EDI DRILLER: B.Hummel HELPER: J.Schaeffer

PREPARED BY: C. Moffat HAMMER WEIGHT: 140 HAMMER DROP: 30 inches

SAMPLE DEPTH (FT BELOW LAND SURFACE)		CORE RECVRY (FT)	BLOW COUNTS PER 6 INCHES	SAMPLE/CORE DESCRIPTION
FROM	TO			
0	2	.5	12, 5,	FILL, dark gray; fine to coarse sand with gravel and
			5, 7	rocks.
				HNu = 40 ppm (peak)
2	4	2.0	12, 7,	SAND (top 14 in.), reddish brown, fine to medium, with
			7, 7	some silt/trace of clay, and fine to coarse gravel; some
				odor.
				HNu = 10 - 11 ppm (peak)
				ORGANIC MATERIAL (bottom 10 in.), brown to black, wood
				saturated with oil; brick debris. Strong odor.
				HNu = 160 ppm (peak)
4	6	2.0	2, 2,	ORGANIC PEAT (top 5 in.), brown.
			1, 1	HNu = 20 ppm (peak)
				SAND (middle 16 in.), grayish brown, fine to medium,
				material is saturated.
				SAND (bottom 3 in.), reddish brown, fine to medium,
				with some trace of silt/clay; fine to coarse gravel.
				Similar to the material recovered from the 24 - 38 in.
				depth interval.

ATTACHMENT N45

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG (Cont.d)

BORING/WELL: MW-2R PREPARED BY: C. Moffat PAGE: 2 of 2

SAMPLE DEPTH (FT BELOW LAND SURFACE)		CORE RECVRY (FT)	BLOW COUNTS PER 6 INCHES	SAMPLE/CORE DESCRIPTION
FROM	TO			
6	8	2.0	1, 2,	SAND (top 4 in.), dark gray, fine, with some silt and
			2, 2	some clay.
				HNu = 17 - 18 ppm (peak)
				PEAT (middle 8 in.), tan.
				HNu = 12 ppm (peak)
				SAND (bottom 12 in.), dark gray, fine to medium.
				Material is saturated.
				HNu = 20 ppm (peak)
8	10	1.5	1, 2,	SAND (top 6"), dark gray, coarse.
			2, 2	HNu = 12 ppm (peak)
				CLAY (bottm 12 in.), dark gray.
				HNu = 10 ppm (peak)
10	12	1.25	7, 8,	SAND (top 12 in.), dark gray, fine to medium,
			8, 9	(saturated).
				PEAT (bottom 3 in.), light brown.
				HNu = 2 - 3 ppm (0 - 15 in.)
12	14	1.2	11, 6,	SAND, dark brownish gray, fine to medium,
			9, 9	saturated.
				HNu = 4 - 5 ppm (peak)

ATTACHMENT N46

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Guignon & Green
Name of Facility: Colt Carting
Location: 402 Bergen Avenue Kearny New Jersey 07032
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section (609-984-6831)):	26-233177
Owner's Well Number (As shown on the application or plans):	MW-3R
Well Completion Date:	December 14, 1990
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	2.67
Total Depth of Well (one-hundredth of a foot):	13.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	3.67
Screen Length (feet):	12.0
Screen or Slot Size:	.020
Screen or Slot Material:	PVC
Casing Material: (PVC, Steel or Other-Specify):	PVC
Casing Diameter (inches):	4
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	4.02
Yield (gallons per minute):	<1
Length of Time Well Pumped or Bailed:	0 Hours 30 Minutes
Lithologic Log:	Attach

Authentication

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

RAO V. BHAGAVATHULA
(B.V. RAO)
Name (Type or Print)

Signature

Seal

Certification or License No.

ATTACHMENT N47

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: MW-3R PROJECT NO: Guignon & Green/ NJ03502 PAGE: 1 of 1

SITE LOCATION: Kearny, New Jersey DRILLING STARTED: 12/14/90 DRILLING COMPLETED: 12/14/90

TOTAL DEPTH DRILLED: 14 ft. HOLE DIAMETER: 12 in. TYPE OF SAMPLE/ CORING DEVICE: Log Drill Cuttings

LENGTH & DIAMETER OF CORING DEVICE: Not Applicable SAMPLING INTERVAL: Not Applicable

LAND-SURFACE ELEVATION: 2.85 ft. {X} SURVEYED { } ESTIMATED DATUM: N.G.V.D. 1927

DRILLING FLUID USED: Not Applicable DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: EDI DRILLER: B.Hummel HELPER: J.Schaeffer

PREPARED BY: B. Burns HAMMER WEIGHT: N.A. HAMMER DROP: N.A inches

SAMPLE DEPTH (FT BELOW LAND SURFACE)		CORE RECVRY (FT)	BLOW COUNTS PER 6 INCHES	SAMPLE/CORE DESCRIPTION
FROM	TO			
0	4			FILL - material consists predominantly of sand with
				appreciable amounts of gravel. Wood debris identified.
4	10			Material is predominantly a grayish fine to medium sand
				with a significant amount of finer grained material
				(silts and/or clays). Material brought to the surface
				is wet.
10	14			Material is similar to that above. After the auger
				flights were removed from downhole, gravel was noted in
				a matrix of saturated fine to coarse sand and silt.
				NOTE:
				Stratigraphy is based on drill cuttings and material
				remaining on the auger flight after its removal from
				downhole.

ATTACHMENT N48

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Guignon & Green
Name of Facility: Cali Carting
Location: 402 Bergen Avenue Kearny New Jersey
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section (609-984-6831)):	26-233116-9
Owner's Well Number (As shown on the application or plans):	MW-4R
Well Completion Date:	December 13, 1990
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	2.67
Total Depth of Well (one-hundredth of a foot):	13.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	3.67
Screen Length (feet):	12.0
Screen or Slot Size:	.020
Screen or Slot Material:	PVC
Casing Material: (PVC, Steel or Other-Specify):	PVC
Casing Diameter (inches):	4
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	3.82
Yield (gallons per minute):	<1
Length of Time Well Pumped or Bailed:	1 Hours 25 Minutes
Lithologic Log:	Attach

Authentication

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Rao V. Bhagavathula
(B. V. Rao)
Name (Type or Print)

B. V. Rao
Signature

Seal

Certification or License No.

ATTACHMENT N49

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

GERAGHTY & MILLER, INC.

SAMPLE/CORE LOG

BORING/WELL: MW-4R PROJECT NO: Guignon & Green/ NJ03502 PAGE: 1 of 1

SITE LOCATION: Kearny, New Jersey DRILLING STARTED: 12/13/90 DRILLING COMPLETED: 12/13/90

TOTAL DEPTH DRILLED: 14 ft. HOLE DIAMETER: 12 in. TYPE OF SAMPLE/ CORING DEVICE: Split Spoon

LENGTH & DIAMETER OF CORING DEVICE: 2 ft/2 in. SAMPLING INTERVAL: Every 2 ft.

LAND-SURFACE ELEVATION: 2.61 ft. {X} SURVEYED { } ESTIMATED DATUM: N.G.V.D. 1927

DRILLING FLUID USED: Not Applicable DRILLING METHOD: Hollow Stem Auger

DRILLING CONTRACTOR: EDI DRILLER: B. Hummel HELPER: J. Schaeffer

PREPARED BY: C. Moffatt HAMMER WEIGHT: 140 HAMMER DROP: 30 inches

SAMPLE DEPTH (FT BELOW LAND SURFACE)		CORE RECVRY (FT)	BLOW COUNTS PER 6 INCHES	SAMPLE/CORE DESCRIPTION
FROM	TO			
0	2	1.5	16, 34,	FILL, brown to gray, fine to medium sand with brick,
			14, 7	concrete and gravel.
2	4	1.7	7, 4,	FILL, grayish brown, fine to medium sand with wood and
			4, 5	metal debris.
4	6	.5	4, 4,	FILL, dark grayish brown, fine to coarse sand with
			2, 1	with gravel, glass and wood debris, moist. Slight
				odor.
				HNu = 10 ppm (peak)
6	8	1.2	1, 1,	FILL material (Top 5 in.) similar to above;
			8, 7	(Bottom 9 in.) gray to dark brown, fine to medium SAND
				with traces of vegetation and fine gravel.
8	10	.2	10, 10,	SAND, gray, fine to medium.
			11, 8	
10	12	1.0	1, 18,	SAND, dark grayish brown, fine to medium (saturated).
			24, 5	
12	14	1.5	3, 4,	SAND, reddish brown, fine to coarse with trace gravel.
			6, 6	HNu = 4 ppm (peak)

ATTACHMENT N50

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: Guignon & Green
Name of Facility: Cali Carting
Location: 402 Bergen Ave., Kearny, NJ
NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation): 26-12256-
This number must be permanently affixed to the well casing.
Datum NAD
Longitude (one-tenth of a second): West 74-08-32.46
Latitude (one-tenth of a second): North 40-45-15.01
Elevation of Top of Casing (cap off) (one-hundredth of a foot): WC= 6.15 /PVC= 5.93 /GRD= 3.90
Owners Well Number (As shown on application or plans): MW1

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possiblity of fine and imprisonment.

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

New Jersey P.L.S. License No. 11363
PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seg.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

ATTACHMENT N51

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: Guignon & Green
Name of Facility: Cali Carting
Location: 402 Bergen Ave., Kearny, NJ
NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation): 26-23315-1
This number must be permanently affixed to the well casing.
Datum NAD
Longitude (one-tenth of a second): West 74-08-29.96
Latitude (one-tenth of a second): North 40-45-13.06
Elevation of Top of Casing (cap off) (one-hundredth of a foot): WC= 6.10 /PVC= 5.19 /GRD= 3.13
Owners Well Number (As shown on application or plans): MW2R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possiblity of fine and imprisonment.

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

New Jersey P.L.S. License No. 11363
PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

ATTACHMENT N52

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: Guignon & Green
Name of Facility: Cali Carting
Location: 402 Bergen Ave., Kearny, NJ
NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation): 26-23317-7
This number must be permanently affixed to the well casing.
Datum NAD
Longitude (one-tenth of a second): West 74-08-31.01
Latitude (one-tenth of a second): North 40-45-13.33
Elevation of Top of Casing (cap off) (one-hundredth of a foot): WC= 7.09 /PVC= 5.52 /GRD= 2.85
Owners Well Number (As shown on application or plans): MW3R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possiblity of fine and imprisonment.

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

New Jersey P.L.S. License No. 11363
PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

ATTACHMENT N53

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: Guignon & Green
Name of Facility: Cali Carting
Location: 402 Bergen Ave., Kearny, NJ
NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation): 26-233169
This number must be permanently affixed to the well casing.
Datum NAD
Longitude (one-tenth of a second): West 74-08-29.85
Latitude (one-tenth of a second): North 40-45-12.61
Elevation of Top of Casing (cap off) (one-hundredth of a foot): WC= 6.18 /PVC= 5.28 /GRD= 2.61
Owners Well Number (As shown on application or plans): MW4R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possiblity of fine and imprisonment.

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

New Jersey P.L.S. License No. 11363
PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

ATTACHMENT N54

APPENDIX G

SUMMARY OF ANALYTICAL RESULTS FOR SOIL AND GROUND-WATER SAMPLES

ATTACHMENT N55

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1891

VOLATILE ORGANICS

Parameter	Lab No. 44604 Client ID: FB-102 Units: ug/l	Detection Limit Units: ug/l
Benzene	ND	5.0
Bromodichloromethane	ND	5.0
Bromoform	ND	5.0
Bromomethane	ND	10
Carbon tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	10
2-Chloroethylvinyl ether	ND	10
Chloroform	ND	5.0
Chloromethane	ND	10
Dibromochloromethane	ND	5.0
1,1-Dichloroethane	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Ethyl benzene	ND	5.0
Methylene chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Trichloroethene	ND	5.0
Trichlorofluoromethane	ND	5.0
Vinyl chloride	ND	10
Xylenes (Total)	ND	5.0

ATTACHMENT N56

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1509B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44604 Client ID: FB-102 Units: ug/l	Detection Limit Units: ug/l
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Hexachloroethane	ND	10
Bis(2-chloroethyl) ether	ND	10
1,2-Dichlorobenzene	ND	10
Bis(2-chloroisopropyl) ether	ND	10
N-Nitrosodi-n-propylamine	ND	10
Nitrobenzene	ND	10
Hexachlorobutadiene	ND	10
1,2,4-Trichlorobenzene	ND	10
Isophorone	ND	10
Naphthalene	ND	10
Bis(2-chloroethoxy) methane	ND	10
Hexachlorocyclopentadiene	ND	10
2-Chloronaphthalene	ND	10
Acenaphthylene	ND	10
Acenaphthene	ND	10
Dimethyl phthalate	ND	10
2,6-Dinitrotoluene	ND	10
Fluorene	ND	10
4-Chlorophenyl phenyl ether	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
N-Nitrosodiphenylamine	ND	10
Hexachlorobenzene	ND	10

ATTACHMENT N57

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1509B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44604 Client ID: FB-102 Units: ug/l	Detection Limit Units: ug/l
4-Bromophenyl phenyl ether	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Dibutyl phthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzidine	ND	20
Butyl benzyl phthalate	ND	10
Bis(2-ethylhexyl) phthalate	ND	10
Chrysene	ND	10
Benzo(a)anthracene	ND	10
3,3'-Dichlorobenzidine	ND	20
Di-n-octyl phthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-c,d)pyrene	ND	10
Dibenzo(a,h)anthracene	ND	10
Benzo(ghi)perylene	ND	10
N-Nitrosodimethylamine	ND	10

ATTACHMENT N58

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1901

PETROLEUM HYDROCARBONS

Envirotech Sample #	Client ID	Petroleum Hydrocarbons Units: mg/l
44604	FB-102	ND

Detection Limit for Petroleum Hydrocarbons is 1.0 mg/l.

ATTACHMENT N59

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1706

VOLATILE ORGANICS

Parameter	Lab No. 44605 Client ID: A-9 90.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	25
Bromodichloromethane	ND	25
Bromoform	ND	25
Bromomethane	ND	50
Carbon tetrachloride	ND	25
Chlorobenzene	ND	25
Chloroethane	ND	50
2-Chloroethylvinyl ether	ND	50
Chloroform	ND	25
Chloromethane	ND	50
Dibromochloromethane	ND	25
1,1-Dichloroethane	ND	25
1,2-Dichloroethane	ND	25
1,1-Dichloroethene	ND	25
trans-1,2-Dichloroethene	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
trans-1,3-Dichloropropene	ND	25
Ethyl benzene	ND	25
Methylene chloride	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	ND	25
1,1,1-Trichloroethane	18JB	25
1,1,2-Trichloroethane	ND	25
Trichloroethene	ND	25
Trichlorofluoromethane	ND	25
Vinyl chloride	ND	50
Xylenes (Total)	ND	25

ATTACHMENT N60

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44605 Client ID: A-9 90.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	8300
1,4-Dichlorobenzene	ND	8300
Hexachloroethane	ND	8300
Bis(2-chloroethyl) ether	ND	8300
1,2-Dichlorobenzene	ND	8300
Bis(2-chloroisopropyl) ether	ND	8300
N-Nitrosodi-n-propylamine	ND	8300
Nitrobenzene	ND	8300
Hexachlorobutadiene	ND	8300
1,2,4-Trichlorobenzene	ND	8300
Isophorone	ND	8300
Naphthalene	ND	8300
Bis(2-chloroethoxy) methane	ND	8300
Hexachlorocyclopentadiene	ND	8300
2-Chloronaphthalene	ND	8300
Acenaphthylene	ND	8300
Acenaphthene	390J	8300
Dimethyl phthalate	ND	8300
2,6-Dinitrotoluene	ND	8300
Fluorene	ND	8300
4-Chlorophenyl phenyl ether	ND	8300
2,4-Dinitrotoluene	ND	8300
Diethylphthalate	ND	8300
N-Nitrosodiphenylamine	ND	8300
Hexachlorobenzene	ND	8300

ATTACHMENT N61

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44605 Client ID: A-9 90.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	8300
Phenanthrene	4100J	8300
Anthracene	900J	8300
Dibutyl phthalate	ND	8300
Fluoranthene	5600J	8300
Pyrene	4800J	8300
Benzidine	ND	17000
Butyl benzyl phthalate	ND	8300
Bis(2-ethylhexyl) phthalate	ND	8300
Chrysene	2500J	8300
Benzo(a)anthracene	2100J	8300
3,3'-Dichlorobenzidine	ND	17000
Di-n-octyl phthalate	ND	8300
Benzo(b)fluoranthene	4900J	8300
Benzo(k)fluoranthene	ND	8300
Benzo(a)pyrene	2300J	8300
Indeno(1,2,3-c,d)pyrene	1900J	8300
Dibenzo(a,h)anthracene	420J	8300
Benzo(ghi)perylene	1800J	8300
N-Nitrosodimethylamine	ND	8300

ATTACHMENT N62

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1706

VOLATILE ORGANICS

Parameter	Lab No. 44606 Client ID: A-10 87.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	25
Bromodichloromethane	ND	25
Bromoform	ND	25
Bromomethane	ND	50
Carbon tetrachloride	ND	25
Chlorobenzene	ND	25
Chloroethane	ND	50
2-Chloroethylvinyl ether	ND	50
Chloroform	ND	25
Chloromethane	ND	50
Dibromochloromethane	ND	25
1,1-Dichloroethane	ND	25
1,2-Dichloroethane	ND	25
1,1-Dichloroethene	ND	25
trans-1,2-Dichloroethene	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
trans-1,3-Dichloropropene	ND	25
Ethyl benzene	ND	25
Methylene chloride	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	ND	25
1,1,1-Trichloroethane	19JB	25
1,1,2-Trichloroethane	ND	25
Trichloroethene	ND	25
Trichlorofluoromethane	ND	25
Vinyl chloride	ND	50
Xylenes (Total)	ND	25

ATTACHMENT 2

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44606 Client ID: A-10 87.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	3300
1,4-Dichlorobenzene	ND	3300
Hexachloroethane	ND	3300
Bis(2-chloroethyl) ether	ND	3300
1,2-Dichlorobenzene	ND	3300
Bis(2-chloroisopropyl) ether	ND	3300
N-Nitrosodi-n-propylamine	ND	3300
Nitrobenzene	ND	3300
Hexachlorobutadiene	ND	3300
1,2,4-Trichlorobenzene	ND	3300
Isophorone	ND	3300
Naphthalene	210J	3300
Bis(2-chloroethoxy) methane	ND	3300
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	3300
Acenaphthylene	310J	3300
Acenaphthene	190J	3300
Dimethyl phthalate	ND	3300
2,6-Dinitrotoluene	ND	3300
Fluorene	ND	3300
4-Chlorophenyl phenyl ether	ND	3300
2,4-Dinitrotoluene	ND	3300
Diethylphthalate	ND	3300
N-Nitrosodiphenylamine	ND	3300
Hexachlorobenzene	ND	3300

ATTACHMENT N69

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44606 Client ID: A-10 87.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	3300
Phenanthrene	1500J	3300
Anthracene	500J	3300
Dibutyl phthalate	ND	3300
Fluoranthene	2400J	3300
Pyrene	1900J	3300
Benzidine	ND	6700
Butyl benzyl phthalate	ND	3300
Bis(2-ethylhexyl) phthalate	ND	3300
Chrysene	1300J	3300
Benzo(a)anthracene	1100J	3300
3,3'-Dichlorobenzidine	ND	6700
Di-n-octyl phthalate	ND	3300
Benzo(b)fluoranthene	1900J	3300
Benzo(k)fluoranthene	ND	3300
Benzo(a)pyrene	1300J	3300
Indeno(1,2,3-c,d)pyrene	1000J	3300
Dibenzo(a,h)anthracene	440J	3300
Benzo(ghi)perylene	1000J	3300
N-Nitrosodimethylamine	ND	3300

ATTACHMENT N65

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1710B

VOLATILE ORGANICS

Parameter	Lab No. 44607 Client ID: C-9 89.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	12000
Bromodichloromethane	ND	12000
Bromoform	ND	12000
Bromomethane	ND	25000
Carbon tetrachloride	ND	12000
Chlorobenzene	ND	12000
Chloroethane	ND	25000
2-Chloroethylvinyl ether	ND	25000
Chloroform	ND	12000
Chloromethane	ND	25000
Dibromochloromethane	ND	12000
1,1-Dichloroethane	ND	12000
1,2-Dichloroethane	ND	12000
1,1-Dichloroethene	ND	12000
trans-1,2-Dichloroethene	ND	12000
1,2-Dichloropropane	ND	12000
cis-1,3-Dichloropropene	ND	12000
trans-1,3-Dichloropropene	ND	12000
Ethyl benzene	ND	12000
Methylene chloride	ND	12000
1,1,2,2-Tetrachloroethane	ND	12000
Tetrachloroethene	ND	12000
Toluene	17000	12000
1,1,1-Trichloroethane	ND	12000
1,1,2-Trichloroethane	ND	12000
Trichloroethene	ND	12000
Trichlorofluoromethane	ND	12000
Vinyl chloride	ND	25000
Xylenes (Total)	ND	12000

ATTACHMENT N66

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44607 Client ID: C-9 89.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	33000
1,4-Dichlorobenzene	ND	33000
Hexachloroethane	ND	33000
Bis(2-chloroethyl) ether	ND	33000
1,2-Dichlorobenzene	ND	33000
Bis(2-chloroisopropyl) ether	ND	33000
N-Nitrosodi-n-propylamine	ND	33000
Nitrobenzene	ND	33000
Hexachlorobutadiene	ND	33000
1,2,4-Trichlorobenzene	ND	33000
Isophorone	ND	33000
Naphthalene	4900J	33000
Bis(2-chloroethoxy) methane	ND	33000
Hexachlorocyclopentadiene	ND	33000
2-Chloronaphthalene	ND	33000
Acenaphthylene	ND	33000
Acenaphthene	ND	33000
Dimethyl phthalate	ND	33000
2,6-Dinitrotoluene	ND	33000
Fluorene	ND	33000
4-Chlorophenyl phenyl ether	ND	33000
2,4-Dinitrotoluene	ND	33000
Diethylphthalate	ND	33000
N-Nitrosodiphenylamine	ND	33000
Hexachlorobenzene	ND	33000

ATTACHMENT N67

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44607 Client ID: C-9 89.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	33000
Phenanthrene	2400J	33000
Anthracene	ND	33000
Dibutyl phthalate	ND	33000
Fluoranthene	2600J	33000
Pyrene	ND	33000
Benzidine	ND	67000
Butyl benzyl phthalate	ND	33000
Bis(2-ethylhexyl) phthalate	ND	33000
Chrysene	1400J	33000
Benzo(a)anthracene	ND	33000
3,3'-Dichlorobenzidine	ND	67000
Di-n-octyl phthalate	ND	33000
Benzo(b)fluoranthene	2200J	33000
Benzo(k)fluoranthene	ND	33000
Benzo(a)pyrene	ND	33000
Indeno(1,2,3-c,d)pyrene	ND	33000
Dibenzo(a,h)anthracene	ND	33000
Benzo(ghi)perylene	ND	33000
N-Nitrosodimethylamine	ND	33000

ATTACHMENT N68

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1710B

VOLATILE ORGANICS

Parameter	Lab No. 44608 Client ID: C-10 87.2% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	500
Bromodichloromethane	ND	500
Bromoform	ND	500
Bromomethane	ND	1000
Carbon tetrachloride	ND	500
Chlorobenzene	ND	500
Chloroethane	ND	1000
2-Chloroethylvinyl ether	ND	1000
Chloroform	ND	500
Chloromethane	ND	1000
Dibromochloromethane	ND	500
1,1-Dichloroethane	ND	500
1,2-Dichloroethane	ND	500
1,1-Dichloroethene	ND	500
trans-1,2-Dichloroethene	ND	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
trans-1,3-Dichloropropene	ND	500
Ethyl benzene	ND	500
Methylene chloride	ND	500
1,1,2,2-Tetrachloroethane	ND	500
Tetrachloroethene	ND	500
Toluene	200J	500
1,1,1-Trichloroethane	ND	500
1,1,2-Trichloroethane	ND	500
Trichloroethene	ND	500
Trichlorofluoromethane	ND	500
Vinyl chloride	ND	1000
Xylenes (Total)	ND	500

ATTACHMENT N69

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44608 Client ID: C-10 87.2% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Hexachloroethane	ND	330
Bis(2-chloroethyl) ether	ND	330
1,2-Dichlorobenzene	ND	330
Bis(2-chloroisopropyl) ether	ND	330
N-Nitrosodi-n-propylamine	ND	330
Nitrobenzene	ND	330
Hexachlorobutadiene	ND	330
1,2,4-Trichlorobenzene	ND	330
Isophorone	ND	330
Naphthalene	58J	330
Bis(2-chloroethoxy) methane	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
Acenaphthylene	170J	330
Acenaphthene	42J	330
Dimethyl phthalate	ND	330
2,6-Dinitrotoluene	ND	330
Fluorene	40J	330
4-Chlorophenyl phenyl ether	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
N-Nitrosodiphenylamine	ND	330
Hexachlorobenzene	ND	330

ATTACHMENT N-70

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44608 Client ID: C-10 87.2% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	330
Phenanthrene	580	330
Anthracene	250J	330
Dibutyl phthalate	ND	330
Fluoranthene	1100	330
Pyrene	1000	330
Benzidine	ND	670
Butyl benzyl phthalate	ND	330
Bis(2-ethylhexyl) phthalate	210J	330
Chrysene	660	330
Benzo(a)anthracene	560	330
3,3'-Dichlorobenzidine	ND	670
Di-n-octyl phthalate	ND	330
Benzo(b)fluoranthene	960	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	780	330
Indeno(1,2,3-c,d)pyrene	730	330
Dibenzo(a,h)anthracene	190J	330
Benzo(ghi)perylene	690	330
N-Nitrosodimethylamine	ND	330

ATTACHMENT N71

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1710B

VOLATILE ORGANICS

Parameter	Lab No. 44609 Client ID: C-11 83.8% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	12000
Bromodichloromethane	ND	12000
Bromoform	ND	12000
Bromomethane	ND	25000
Carbon tetrachloride	ND	12000
Chlorobenzene	ND	12000
Chloroethane	ND	25000
2-Chloroethylvinyl ether	ND	25000
Chloroform	ND	12000
Chloromethane	ND	25000
Dibromochloromethane	ND	12000
1,1-Dichloroethane	ND	12000
1,2-Dichloroethane	ND	12000
1,1-Dichloroethene	ND	12000
trans-1,2-Dichloroethene	ND	12000
1,2-Dichloropropane	ND	12000
cis-1,3-Dichloropropene	ND	12000
trans-1,3-Dichloropropene	ND	12000
Ethyl benzene	ND	12000
Methylene chloride	ND	12000
1,1,2,2-Tetrachloroethane	ND	12000
Tetrachloroethene	ND	12000
Toluene	ND	12000
1,1,1-Trichloroethane	ND	12000
1,1,2-Trichloroethane	ND	12000
Trichloroethene	ND	12000
Trichlorofluoromethane	ND	12000
Vinyl chloride	ND	25000
Xylenes (Total)	ND	12000

ATTACHMENT 10-72

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44609 Client ID: C-11 83.8% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	17000
1,4-Dichlorobenzene	ND	17000
Hexachloroethane	ND	17000
Bis(2-chloroethyl) ether	ND	17000
1,2-Dichlorobenzene	ND	17000
Bis(2-chloroisopropyl) ether	ND	17000
N-Nitrosodi-n-propylamine	ND	17000
Nitrobenzene	ND	17000
Hexachlorobutadiene	ND	17000
1,2,4-Trichlorobenzene	ND	17000
Isophorone	ND	17000
Naphthalene	1800J	17000
Bis(2-chloroethoxy) methane	ND	17000
Hexachlorocyclopentadiene	ND	17000
2-Chloronaphthalene	ND	17000
Acenaphthylene	ND	17000
Acenaphthene	ND	17000
Dimethyl phthalate	ND	17000
2,6-Dinitrotoluene	ND	17000
Fluorene	ND	17000
4-Chlorophenyl phenyl ether	ND	17000
2,4-Dinitrotoluene	ND	17000
Diethylphthalate	ND	17000
N-Nitrosodiphenylamine	ND	17000
Hexachlorobenzene	ND	17000

ATTACHMENT N73

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44609 Client ID: C-11 83.8% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	17000
Phenanthrene	2700J	17000
Anthracene	430J	17000
Dibutyl phthalate	ND	17000
Fluoranthene	2300J	17000
Pyrene	1900J	17000
Benzidine	ND	33000
Butyl benzyl phthalate	ND	17000
Bis(2-ethylhexyl) phthalate	5500J	17000
Chrysene	1200J	17000
Benzo(a)anthracene	ND	17000
3,3'-Dichlorobenzidine	ND	33000
Di-n-octyl phthalate	ND	17000
Benzo(b)fluoranthene	1300J	17000
Benzo(k)fluoranthene	ND	17000
Benzo(a)pyrene	900J	17000
Indeno(1,2,3-c,d)pyrene	690J	17000
Dibenzo(a,h)anthracene	ND	17000
Benzo(ghi)perylene	820J	17000
N-Nitrosodimethylamine	ND	17000

ATTACHMENT N74

ENVIROTECH RESEARCH. INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1710B

VOLATILE ORGANICS

Parameter	Lab No. 44610 Client ID: C-12 84.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	12000
Bromodichloromethane	ND	12000
Bromoform	ND	12000
Bromomethane	ND	25000
Carbon tetrachloride	ND	12000
Chlorobenzene	ND	12000
Chloroethane	ND	25000
2-Chloroethylvinyl ether	ND	25000
Chloroform	ND	12000
Chloromethane	ND	25000
Dibromochloromethane	ND	12000
1,1-Dichloroethane	ND	12000
1,2-Dichloroethane	ND	12000
1,1-Dichloroethene	ND	12000
trans-1,2-Dichloroethene	ND	12000
1,2-Dichloropropane	ND	12000
cis-1,3-Dichloropropene	ND	12000
trans-1,3-Dichloropropene	ND	12000
Ethyl benzene	4800J	12000
Methylene chloride	ND	12000
1,1,2,2-Tetrachloroethane	ND	12000
Tetrachloroethene	ND	12000
Toluene	5100J	12000
1,1,1-Trichloroethane	ND	12000
1,1,2-Trichloroethane	ND	12000
Trichloroethene	ND	12000
Trichlorofluoromethane	ND	12000
Vinyl chloride	ND	25000
Xylenes (Total)	12000	12000

ATTACHMENT N°5

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44610 Client ID: C-12 84.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	6700
1,4-Dichlorobenzene	ND	6700
Hexachloroethane	ND	6700
Bis(2-chloroethyl) ether	ND	6700
1,2-Dichlorobenzene	ND	6700
Bis(2-chloroisopropyl) ether	ND	6700
N-Nitrosodi-n-propylamine	ND	6700
Nitrobenzene	ND	6700
Hexachlorobutadiene	ND	6700
1,2,4-Trichlorobenzene	ND	6700
Isophorone	ND	6700
Naphthalene	6000J	6700
Bis(2-chloroethoxy) methane	ND	6700
Hexachlorocyclopentadiene	ND	6700
2-Chloronaphthalene	ND	6700
Acenaphthylene	2700J	6700
Acenaphthene	880J	6700
Dimethyl phthalate	ND	6700
2,6-Dinitrotoluene	ND	6700
Fluorene	1800J	6700
4-Chlorophenyl phenyl ether	ND	6700
2,4-Dinitrotoluene	ND	6700
Diethylphthalate	ND	6700
N-Nitrosodiphenylamine	ND	6700
Hexachlorobenzene	ND	6700

ATTACHMENT N°6

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44610 Client ID: C-12 84.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	6700
Phenanthrene	11000	6700
Anthracene	2900J	6700
Dibutyl phthalate	ND	6700
Fluoranthene	17000	6700
Pyrene	19000	6700
Benzidine	ND	13000
Butyl benzyl phthalate	ND	6700
Bis(2-ethylhexyl) phthalate	890J	6700
Chrysene	7800	6700
Benzo(a)anthracene	6800	6700
3,3'-Dichlorobenzidine	ND	13000
Di-n-octyl phthalate	ND	6700
Benzo(b)fluoranthene	11000	6700
Benzo(k)fluoranthene	ND	6700
Benzo(a)pyrene	9400	6700
Indeno(1,2,3-c,d)pyrene	8300	6700
Dibenzo(a,h)anthracene	1700J	6700
Benzo(ghi)perylene	9800	6700
N-Nitrosodimethylamine	ND	6700

ATTACHMENT N77

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1710C

VOLATILE ORGANICS

Parameter	Lab No. 44611 Client ID: C-13 82.6% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	500
Bromodichloromethane	ND	500
Bromoform	ND	500
Bromomethane	ND	1000
Carbon tetrachloride	ND	500
Chlorobenzene	ND	500
Chloroethane	ND	1000
2-Chloroethylvinyl ether	ND	1000
Chloroform	ND	500
Chloromethane	ND	1000
Dibromochloromethane	ND	500
1,1-Dichloroethane	ND	500
1,2-Dichloroethane	ND	500
1,1-Dichloroethene	ND	500
trans-1,2-Dichloroethene	ND	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
trans-1,3-Dichloropropene	ND	500
Ethyl benzene	ND	500
Methylene chloride	ND	500
1,1,2,2-Tetrachloroethane	ND	500
Tetrachloroethene	ND	500
Toluene	230J	500
1,1,1-Trichloroethane	ND	500
1,1,2-Trichloroethane	ND	500
Trichloroethene	ND	500
Trichlorofluoromethane	ND	500
Vinyl chloride	ND	1000
Xylenes (Total)	ND	500

ATTACHMENT N-78

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44611 Client ID: C-13 82.6% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Hexachloroethane	ND	330
Bis(2-chloroethyl) ether	ND	330
1,2-Dichlorobenzene	ND	330
Bis(2-chloroisopropyl) ether	ND	330
N-Nitrosodi-n-propylamine	ND	330
Nitrobenzene	ND	330
Hexachlorobutadiene	ND	330
1,2,4-Trichlorobenzene	ND	330
Isophorone	ND	330
Naphthalene	160J	330
Bis(2-chloroethoxy) methane	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
Acenaphthylene	110J	330
Acenaphthene	230J	330
Dimethyl phthalate	ND	330
2,6-Dinitrotoluene	ND	330
Fluorene	270J	330
4-Chlorophenyl phenyl ether	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
N-Nitrosodiphenylamine	ND	330
Hexachlorobenzene	ND	330

ATTACHMENT N79

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44611 Client ID: C-13 82.6% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	330
Phenanthrene	1600	330
Anthracene	460	330
Dibutyl phthalate	50J	330
Fluoranthene	2000	330
Pyrene	1700	330
Benzidine	ND	670
Butyl benzyl phthalate	410	330
Bis(2-ethylhexyl) phthalate	400	330
Chrysene	980	330
Benzo(a)anthracene	910	330
3,3'-Dichlorobenzidine	ND	670
Di-n-octyl phthalate	ND	330
Benzo(b)fluoranthene	1300	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	820	330
Indeno(1,2,3-c,d)pyrene	520	330
Dibenzo(a,h)anthracene	180J	330
Benzo(ghi)perylene	520	330
N-Nitrosodimethylamine	ND	330

ATTACHMENT N80

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 1/23/91
Job No.: 8283 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1908

PETROLEUM HYDROCARBONS

Envirotech Sample #	Client ID	% Solid	Petroleum Hydrocarbons mg/kg (Dry Wt.)
44605	A-9	90.1	4510
44606	A-10	87.0	2470
44607	C-9	89.0	1310
44608	C-10	87.2	278
44609	C-11	83.8	6310
44610	C-12	84.1	19900
44611	C-13	82.6	287

Detection Limit for Petroleum Hydrocarbons is 25 mg/kg.

ATTACHMENT N81

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1907

PETROLEUM HYDROCARBONS

Envirotech Sample #	Client ID	% Solid	Petroleum Hydrocarbons mg/kg (Dry Wt.)
44550	SA-2	88.2	224
44551	SA-1	91.5	2200
44552	SD-10	91.3	406
44553	SD-12	80.7	775
44554	SC-9	87.9	165
44555	SC-7	89.2	1300
44556	SC-8	85.0	151
44557	SB-4	84.5	47
44558	SB-5	77.9	423
44559	SD-11	97.8	10900
44560	SB-6	87.2	2760
44561	SB-3	91.7	469
44563	B-9	84.1	950
44564	B-10	90.0	3310
44565	B-11	64.5	10700
44566	B-12	80.3	790
44567	D-7	90.1	418
44568	D-8	79.2	1350
44569	D-9	93.9	1580

Detection Limit for Petroleum Hydrocarbons is 25 mg/kg.

ATTACHMENT N82

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1891

VOLATILE ORGANICS

Parameter	Lab No. 44562 Client ID: FB-01 Units: ug/l	Detection Limit Units: ug/l
Benzene	ND	5.0
Bromodichloromethane	ND	5.0
Bromoform	ND	5.0
Bromomethane	ND	10
Carbon tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	10
2-Chloroethylvinyl ether	ND	10
Chloroform	ND	5.0
Chloromethane	ND	10
Dibromochloromethane	ND	5.0
1,1-Dichloroethane	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Ethyl benzene	ND	5.0
Methylene chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Trichloroethene	ND	5.0
Trichlorofluoromethane	ND	5.0
Vinyl chloride	ND	10
Xylenes (Total)	ND	5.0

ATTACHMENT N83

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1508A

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44562 Client ID: FB-01 Units: ug/l	Detection Limit Units: ug/l
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Hexachloroethane	ND	10
Bis(2-chloroethyl) ether	ND	10
1,2-Dichlorobenzene	ND	10
Bis(2-chloroisopropyl) ether	ND	10
N-Nitrosodi-n-propylamine	ND	10
Nitrobenzene	ND	10
Hexachlorobutadiene	ND	10
1,2,4-Trichlorobenzene	ND	10
Isophorone	ND	10
Naphthalene	ND	10
Bis(2-chloroethoxy) methane	ND	10
Hexachlorocyclopentadiene	ND	10
2-Chloronaphthalene	ND	10
Acenaphthylene	ND	10
Acenaphthene	ND	10
Dimethyl phthalate	ND	10
2,6-Dinitrotoluene	ND	10
Fluorene	ND	10
4-Chlorophenyl phenyl ether	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
N-Nitrosodiphenylamine	ND	10
Hexachlorobenzene	ND	10

ATTACHMENT N84

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1508A

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44562 Client ID: FB-01 Units: ug/l	Detection Limit Units: ug/l
4-Bromophenyl phenyl ether	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Dibutyl phthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzidine	ND	20
Butyl benzyl phthalate	ND	10
Bis(2-ethylhexyl) phthalate	3.9J	10
Chrysene	ND	10
Benzo(a)anthracene	ND	10
3,3'-Dichlorobenzidine	ND	20
Di-n-octyl phthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-c,d)pyrene	ND	10
Dibenzo(a,h)anthracene	ND	10
Benzo(ghi)perylene	ND	10
N-Nitrosodimethylamine	ND	10

ATTACHMENT N85

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1901

PETROLEUM HYDROCARBONS

Envirotech Sample #	Client ID	Petroleum Hydrocarbons Units: mg/l
44562	FB-01	ND

Detection Limit for Petroleum Hydrocarbons is 1.0 mg/l.

ATTACHMENT N86

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1706A

VOLATILE ORGANICS

Parameter	Lab No. 44563 Client ID: B-9 84.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	25
Bromodichloromethane	ND	25
Bromoform	ND	25
Bromomethane	ND	50
Carbon tetrachloride	ND	25
Chlorobenzene	ND	25
Chloroethane	ND	50
2-Chloroethylvinyl ether	ND	50
Chloroform	ND	25
Chloromethane	ND	50
Dibromochloromethane	ND	25
1,1-Dichloroethane	ND	25
1,2-Dichloroethane	ND	25
1,1-Dichloroethene	ND	25
trans-1,2-Dichlorcethene	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
trans-1,3-Dichloropropene	ND	25
Ethyl benzene	ND	25
Methylene chloride	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	ND	25
1,1,1-Trichloroethane	21JB	25
1,1,2-Trichloroethane	ND	25
Trichloroethene	ND	25
Trichlorofluoromethane	16J	25
Vinyl chloride	ND	50
Xylenes (Total)	ND	25

ATTACHMENT 1087

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511A

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44563 Client ID: B-9 84.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	1700
1,4-Dichlorobenzene	ND	1700
Hexachloroethane	ND	1700
Bis(2-chloroethyl) ether	ND	1700
1,2-Dichlorobenzene	ND	1700
Bis(2-chloroisopropyl) ether	ND	1700
N-Nitrosodi-n-propylamine	ND	1700
Nitrobenzene	ND	1700
Hexachlorobutadiene	ND	1700
1,2,4-Trichlorobenzene	ND	1700
Isophorone	ND	1700
Naphthalene	160J	1700
Bis(2-chloroethoxy) methane	ND	1700
Hexachlorocyclopentadiene	ND	1700
2-Chloronaphthalene	ND	1700
Acenaphthylene	220J	1700
Acenaphthene	140J	1700
Dimethyl phthalate	ND	1700
2,6-Dinitrotoluene	ND	1700
Fluorene	200J	1700
4-Chlorophenyl phenyl ether	ND	1700
2,4-Dinitrotoluene	ND	1700
Diethylphthalate	ND	1700
N-Nitrosodiphenylamine	ND	1700
Hexachlorobenzene	ND	1700

ATTACHMENT N20

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511A

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44563 Client ID: B-9 84.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	1700
Phenanthrene	1600J	1700
Anthracene	570J	1700
Dibutyl phthalate	ND	1700
Fluoranthene	2800	1700
Pyrene	2500	1700
Benzidine	ND	3300
Butyl benzyl phthalate	ND	1700
Bis(2-ethylhexyl) phthalate	970J	1700
Chrysene	1400J	1700
Benzo(a)anthracene	1200J	1700
3,3'-Dichlorobenzidine	ND	3300
Di-n-octyl phthalate	ND	1700
Benzo(b)fluoranthene	2200	1700
Benzo(k)fluoranthene	ND	1700
Benzo(a)pyrene	1200J	1700
Indeno(1,2,3-c,d)pyrene	990J	1700
Dibenzo(a,h)anthracene	280J	1700
Benzo(ghi)perylene	980J	1700
N-Nitrosodimethylamine	ND	1700

ATTACHMENT N29

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1706A

VOLATILE ORGANICS

Parameter	Lab No. 44564 Client ID: B-10 90.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	25
Bromodichloromethane	ND	25
Bromoform	ND	25
Bromomethane	ND	50
Carbon tetrachloride	ND	25
Chlorobenzene	ND	25
Chloroethane	ND	50
2-Chloroethylvinyl ether	ND	50
Chloroform	ND	25
Chloromethane	ND	50
Dibromochloromethane	ND	25
1,1-Dichloroethane	ND	25
1,2-Dichloroethane	ND	25
1,1-Dichloroethene	ND	25
trans-1,2-Dichloroethene	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
trans-1,3-Dichloropropene	ND	25
Ethyl benzene	ND	25
Methylene chloride	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	ND	25
1,1,1-Trichloroethane	20JB	25
1,1,2-Trichloroethane	ND	25
Trichloroethene	ND	25
Trichlorofluoromethane	ND	25
Vinyl chloride	ND	50
Xylenes (Total)	ND	25

ATTACHMENT N90

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44564 Client ID: B-10 90.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	3300
1,4-Dichlorobenzene	ND	3300
Hexachloroethane	ND	3300
Bis(2-chloroethyl) ether	ND	3300
1,2-Dichlorobenzene	ND	3300
Bis(2-chloroisopropyl) ether	ND	3300
N-Nitrosodi-n-propylamine	ND	3300
Nitrobenzene	ND	3300
Hexachlorobutadiene	ND	3300
1,2,4-Trichlorobenzene	ND	3300
Isophorone	ND	3300
Naphthalene	380J	3300
Bis(2-chloroethoxy) methane	ND	3300
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	3300
Acenaphthylene	390J	3300
Acenaphthene	560J	3300
Dimethyl phthalate	ND	3300
2,6-Dinitrotoluene	ND	3300
Fluorene	670J	3300
4-Chlorophenyl phenyl ether	ND	3300
2,4-Dinitrotoluene	ND	3300
Diethylphthalate	ND	3300
N-Nitrosodiphenylamine	ND	3300
Hexachlorobenzene	ND	3300

ATTACHMENT N91

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44564 Client ID: B-10 90.0% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	3300
Phenanthrene	4400	3300
Anthracene	1200J	3300
Dibutyl phthalate	ND	3300
Fluoranthene	5800	3300
Pyrene	4700	3300
Benzidine	ND	6700
Butyl benzyl phthalate	ND	3300
Bis(2-ethylhexyl) phthalate	1900J	3300
Chrysene	2800J	3300
Benzo(a)anthracene	2600J	3300
3,3'-Dichlorobenzidine	ND	6700
Di-n-octyl phthalate	ND	3300
Benzo(b)fluoranthene	4200	3300
Benzo(k)fluoranthene	ND	3300
Benzo(a)pyrene	2600J	3300
Indeno(1,2,3-c,d)pyrene	1800J	3300
Dibenzo(a,h)anthracene	580J	3300
Benzo(ghi)perylene	1900J	3300
N-Nitrosodimethylamine	ND	3300

ATTACHMENT N92

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1710A

VOLATILE ORGANICS

Parameter	Lab No. 44565 Client ID: B-11 64.5% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	500
Bromodichloromethane	ND	500
Bromoform	ND	500
Bromomethane	ND	1000
Carbon tetrachloride	ND	500
Chlorobenzene	ND	500
Chloroethane	ND	1000
2-Chloroethylvinyl ether	ND	1000
Chloroform	ND	500
Chloromethane	ND	1000
Dibromochloromethane	ND	500
1,1-Dichloroethane	ND	500
1,2-Dichloroethane	ND	500
1,1-Dichloroethene	ND	500
trans-1,2-Dichloroethene	ND	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
trans-1,3-Dichloropropene	ND	500
Ethyl benzene	250J	500
Methylene chloride	ND	500
1,1,2,2-Tetrachloroethane	ND	500
Tetrachloroethene	ND	500
Toluene	ND	500
1,1,1-Trichloroethane	ND	500
1,1,2-Trichloroethane	ND	500
Trichloroethene	ND	500
Trichlorofluoromethane	ND	500
Vinyl chloride	ND	1000
Xylenes (Total)	ND	500

ATTACHMENT N93

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44565 Client ID: B-11 64.5% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	17000
1,4-Dichlorobenzene	ND	17000
Hexachloroethane	ND	17000
Bis(2-chloroethyl) ether	ND	17000
1,2-Dichlorobenzene	ND	17000
Bis(2-chloroisopropyl) ether	ND	17000
N-Nitrosodi-n-propylamine	ND	17000
Nitrobenzene	ND	17000
Hexachlorobutadiene	ND	17000
1,2,4-Trichlorobenzene	ND	17000
Isophorone	ND	17000
Naphthalene	820J	17000
Bis(2-chloroethoxy) methane	ND	17000
Hexachlorocyclopentadiene	ND	17000
2-Chloronaphthalene	ND	17000
Acenaphthylene	ND	17000
Acenaphthene	720J	17000
Dimethyl phthalate	ND	17000
2,6-Dinitrotoluene	ND	17000
Fluorene	2900J	17000
4-Chlorophenyl phenyl ether	ND	17000
2,4-Dinitrotoluene	ND	17000
Diethylphthalate	ND	17000
N-Nitrosodiphenylamine	ND	17000
Hexachlorobenzene	ND	17000

ATTACHMENT N94

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44565 Client ID: B-11 64.5% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	17000
Phenanthrene	7900J	17000
Anthracene	2600J	17000
Dibutyl phthalate	ND	17000
Fluoranthene	3900J	17000
Pyrene	3800J	17000
Benzidine	ND	33000
Butyl benzyl phthalate	ND	17000
Bis(2-ethylhexyl) phthalate	ND	17000
Chrysene	2100J	17000
Benzo(a)anthracene	1600J	17000
3,3'-Dichlorobenzidine	ND	17000
Di-n-octyl phthalate	ND	17000
Benzo(b)fluoranthene	2400J	17000
Benzo(k)fluoranthene	ND	17000
Benzo(a)pyrene	1100J	17000
Indeno(1,2,3-c,d)pyrene	900J	17000
Dibenzo(a,h)anthracene	ND	17000
Benzo(ghi)perylene	870J	17000
N-Nitrosodimethylamine	ND	17000

ATTACHMENT N95

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1706

VOLATILE ORGANICS

Parameter	Lab No. 44566 Client ID: B-12 80.3% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	25
Bromodichloromethane	ND	25
Bromoform	ND	25
Bromomethane	ND	50
Carbon tetrachloride	ND	25
Chlorobenzene	ND	25
Chloroethane	ND	50
2-Chloroethylvinyl ether	ND	50
Chloroform	ND	25
Chloromethane	ND	50
Dibromochloromethane	ND	25
1,1-Dichloroethane	ND	25
1,2-Dichloroethane	ND	25
1,1-Dichloroethene	ND	25
trans-1,2-Dichloroethene	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
trans-1,3-Dichloropropene	ND	25
Ethyl benzene	6.5J	25
Methylene chloride	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	ND	25
1,1,1-Trichloroethane	18JB	25
1,1,2-Trichloroethane	ND	25
Trichloroethene	ND	25
Trichlorofluoromethane	ND	25
Vinyl chloride	ND	50
Xylenes (Total)	21J	25

ATTACHMENT N96

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44566 Client ID: B-12 80.3% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	8300
1,4-Dichlorobenzene	ND	8300
Hexachloroethane	ND	8300
Bis(2-chloroethyl) ether	ND	8300
1,2-Dichlorobenzene	ND	8300
Bis(2-chloroisopropyl) ether	ND	8300
N-Nitrosodi-n-propylamine	ND	8300
Nitrobenzene	ND	8300
Hexachlorobutadiene	ND	8300
1,2,4-Trichlorobenzene	ND	8300
Isophorone	ND	8300
Naphthalene	410J	8300
Bis(2-chloroethoxy) methane	ND	8300
Hexachlorocyclopentadiene	ND	8300
2-Chloronaphthalene	ND	8300
Acenaphthylene	2200J	8300
Acenaphthene	5300J	8300
Dimethyl phthalate	ND	8300
2,6-Dinitrotoluene	ND	8300
Fluorene	2000J	8300
4-Chlorophenyl phenyl ether	ND	8300
2,4-Dinitrotoluene	ND	8300
Diethylphthalate	ND	8300
N-Nitrosodiphenylamine	ND	8300
Hexachlorobenzene	ND	8300

ATTACHMENT N97

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44566 Client ID: B-12 80.3% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	8300
Phenanthrene	9600	8300
Anthracene	2900J	8300
Dibutyl phthalate	ND	8300
Fluoranthene	33000	8300
Pyrene	20000	8300
Benzidine	ND	17000
Butyl benzyl phthalate	ND	8300
Bis(2-ethylhexyl) phthalate	3200J	8300
Chrysene	14000	8300
Benzo(a)anthracene	7000J	8300
3,3'-Dichlorobenzidine	ND	17000
Di-n-octyl phthalate	ND	8300
Benzo(b)fluoranthene	18000	8300
Benzo(k)fluoranthene	ND	8300
Benzo(a)pyrene	4600J	8300
Indeno(1,2,3-c,d)pyrene	4200J	8300
Dibenzo(a,h)anthracene	1500J	8300
Benzo(ghi)perylene	3500J	8300
N-Nitrosodimethylamine	ND	8300

ATTACHMENT N98

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1706

VOLATILE ORGANICS

Parameter	Lab No. 44567 Client ID: D-7 90.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	25
Bromodichloromethane	ND	25
Bromoform	ND	25
Bromomethane	ND	50
Carbon tetrachloride	ND	25
Chlorobenzene	ND	25
Chloroethane	ND	50
2-Chloroethylvinyl ether	ND	50
Chloroform	ND	25
Chloromethane	ND	50
Dibromochloromethane	ND	25
1,1-Dichloroethane	ND	25
1,2-Dichloroethane	ND	25
1,1-Dichloroethene	ND	25
trans-1,2-Dichloroethene	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
trans-1,3-Dichloropropene	ND	25
Ethyl benzene	ND	25
Methylene chloride	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	ND	25
1,1,1-Trichloroethane	18JB	25
1,1,2-Trichloroethane	ND	25
Trichloroethene	ND	25
Trichlorofluoromethane	ND	25
Vinyl chloride	ND	50
Xylenes (Total)	ND	25

ATTACHMENT N°9

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44567 Client ID: D-7 90.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	1700
1,4-Dichlorobenzene	ND	1700
Hexachloroethane	ND	1700
Bis(2-chloroethyl) ether	ND	1700
1,2-Dichlorobenzene	ND	1700
Bis(2-chloroisopropyl) ether	ND	1700
N-Nitrosodi-n-propylamine	ND	1700
Nitrobenzene	ND	1700
Hexachlorobutadiene	ND	1700
1,2,4-Trichlorobenzene	ND	1700
Isophorone	ND	1700
Naphthalene	230J	1700
Bis(2-chloroethoxy) methane	ND	1700
Hexachlorocyclopentadiene	ND	1700
2-Chloronaphthalene	ND	1700
Acenaphthylene	110J	1700
Acenaphthene	100J	1700
Dimethyl phthalate	ND	1700
2,6-Dinitrotoluene	ND	1700
Fluorene	210J	1700
4-Chlorophenyl phenyl ether	ND	1700
2,4-Dinitrotoluene	ND	1700
Diethylphthalate	ND	1700
N-Nitrosodiphenylamine	ND	1700
Hexachlorobenzene	ND	1700

ATTACHMENT N100

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44567 Client ID: D-7 90.1% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	1700
Phenanthrene	880J	1700
Anthracene	170J	1700
Dibutyl phthalate	ND	1700
Fluoranthene	1400J	1700
Pyrene	1300J	1700
Benzidine	ND	3300
Butyl benzyl phthalate	ND	1700
Bis(2-ethylhexyl) phthalate	1600J	1700
Chrysene	650J	1700
Benzo(a)anthracene	470J	1700
3,3'-Dichlorobenzidine	ND	3300
Di-n-octyl phthalate	ND	1700
Benzo(b)fluoranthene	890J	1700
Benzo(k)fluoranthene	ND	1700
Benzo(a)pyrene	510J	1700
Indeno(1,2,3-c,d)pyrene	380J	1700
Dibenzo(a,h)anthracene	120J	1700
Benzo(ghi)perylene	380J	1700
N-Nitrosodimethylamine	ND	1700

ATTACHMENT N 101

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1710A

VOLATILE ORGANICS

Parameter	Lab No. 44568 Client ID: D-8 79.2% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	500
Bromodichloromethane	ND	500
Bromoform	ND	500
Bromomethane	ND	1000
Carbon tetrachloride	ND	500
Chlorobenzene	ND	500
Chloroethane	ND	1000
2-Chloroethylvinyl ether	ND	1000
Chloroform	ND	500
Chloromethane	ND	1000
Dibromochloromethane	ND	500
1,1-Dichloroethane	ND	500
1,2-Dichloroethane	ND	500
1,1-Dichloroethene	ND	500
trans-1,2-Dichloroethene	140J	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
trans-1,3-Dichloropropene	ND	500
Ethyl benzene	940	500
Methylene chloride	ND	500
1,1,2,2-Tetrachloroethane	ND	500
Tetrachloroethene	ND	500
Toluene	29000	500
1,1,1-Trichloroethane	ND	500
1,1,2-Trichloroethane	ND	500
Trichloroethene	ND	500
Trichlorofluoromethane	ND	500
Vinyl chloride	ND	1000
Xylenes (Total)	920	500

ATTACHMENT N 102

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44568 Client ID: D-8 79.2% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	17000
1,4-Dichlorobenzene	ND	17000
Hexachloroethane	ND	17000
Bis(2-chloroethyl) ether	ND	17000
1,2-Dichlorobenzene	ND	17000
Bis(2-chloroisopropyl) ether	ND	17000
N-Nitrosodi-n-propylamine	ND	17000
Nitrobenzene	ND	17000
Hexachlorobutadiene	ND	17000
1,2,4-Trichlorobenzene	ND	17000
Isophorone	ND	17000
Naphthalene	1800J	17000
Bis(2-chloroethoxy) methane	ND	17000
Hexachlorocyclopentadiene	ND	17000
2-Chloronaphthalene	ND	17000
Acenaphthylene	800J	17000
Acenaphthene	1000J	17000
Dimethyl phthalate	ND	17000
2,6-Dinitrotoluene	ND	17000
Fluorene	1700J	17000
4-Chlorophenyl phenyl ether	ND	17000
2,4-Dinitrotoluene	ND	17000
Diethylphthalate	ND	17000
N-Nitrosodiphenylamine	ND	17000
Hexachlorobenzene	ND	17000

ATTACHMENT N[illegible]

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44568 Client ID: D-8 79.2% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	17000
Phenanthrene	10000J	17000
Anthracene	2200J	17000
Dibutyl phthalate	ND	17000
Fluoranthene	14000J	17000
Pyrene	12000J	17000
Benzidine	ND	33000
Butyl benzyl phthalate	ND	17000
Bis(2-ethylhexyl) phthalate	ND	17000
Chrysene	5800J	17000
Benzo(a)anthracene	5400J	17000
3,3'-Dichlorobenzidine	ND	33000
Di-n-octyl phthalate	ND	17000
Benzo(b)fluoranthene	7900J	17000
Benzo(k)fluoranthene	ND	17000
Benzo(a)pyrene	5000J	17000
Indeno(1,2,3-c,d)pyrene	3200J	17000
Dibenzo(a,h)anthracene	950J	17000
Benzo(ghi)perylene	3000J	17000
N-Nitrosodimethylamine	ND	17000

ATTACHMENT N104

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1706A

VOLATILE ORGANICS

Parameter	Lab No. 44569 Client ID: D-9 93.9% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
Benzene	ND	25
Bromodichloromethane	ND	25
Bromoform	ND	25
Bromomethane	ND	50
Carbon tetrachloride	ND	25
Chlorobenzene	ND	25
Chloroethane	ND	50
2-Chloroethylvinyl ether	ND	50
Chloroform	ND	25
Chloromethane	ND	50
Dibromochloromethane	ND	25
1,1-Dichloroethane	ND	25
1,2-Dichloroethane	ND	25
1,1-Dichloroethene	ND	25
trans-1,2-Dichloroethene	ND	25
1,2-Dichloropropane	ND	25
cis-1,3-Dichloropropene	ND	25
trans-1,3-Dichloropropene	ND	25
Ethyl benzene	170	25
Methylene chloride	ND	25
1,1,2,2-Tetrachloroethane	ND	25
Tetrachloroethene	ND	25
Toluene	12J	25
1,1,1-Trichloroethane	19JB	25
1,1,2-Trichloroethane	ND	25
Trichloroethene	ND	25
Trichlorofluoromethane	ND	25
Vinyl chloride	ND	50
Xylenes (Total)	150	25

ATTACHMENT N105

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 44569 Client ID: D-9 93.9% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
1,3-Dichlorobenzene	ND	1700
1,4-Dichlorobenzene	ND	1700
Hexachloroethane	ND	1700
Bis(2-chloroethyl) ether	ND	1700
1,2-Dichlorobenzene	ND	1700
Bis(2-chloroisopropyl) ether	ND	1700
N-Nitrosodi-n-propylamine	ND	1700
Nitrobenzene	ND	1700
Hexachlorobutadiene	ND	1700
1,2,4-Trichlorobenzene	ND	1700
Isophorone	ND	1700
Naphthalene	260J	1700
Bis(2-chloroethoxy) methane	ND	1700
Hexachlorocyclopentadiene	ND	1700
2-Chloronaphthalene	ND	1700
Acenaphthylene	400J	1700
Acenaphthene	110J	1700
Dimethyl phthalate	ND	1700
2,6-Dinitrotoluene	ND	1700
Fluorene	480J	1700
4-Chlorophenyl phenyl ether	ND	1700
2,4-Dinitrotoluene	ND	1700
Diethylphthalate	ND	1700
N-Nitrosodiphenylamine	ND	1700
Hexachlorobenzene	ND	1700

ATTACHMENT N°106

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Ms. Robert Burns

Report Date: 1/21/91
Job No.: 8275 - Guignon & Green
N.J. Certified Lab No. 12543
QA Batch 1511B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 44569 Client ID: D-9 93.9% Solid Units: ug/kg (Dry Weight)	Detection Limit Units: ug/kg
4-Bromophenyl phenyl ether	ND	1700
Phenanthrene	2200	1700
Anthracene	480J	1700
Dibutyl phthalate	ND	1700
Fluoranthene	5000	1700
Pyrene	4600	1700
Benzidine	ND	3300
Butyl benzyl phthalate	ND	1700
Bis(2-ethylhexyl) phthalate	800J	1700
Chrysene	130J	1700
Benzo(a)anthracene	2200	1700
3,3'-Dichlorobenzidine	ND	3300
Di-n-octyl phthalate	ND	1700
Benzo(b)fluoranthene	4100	1700
Benzo(k)fluoranthene	ND	1700
Benzo(a)pyrene	1700	1700
Indeno(1,2,3-c,d)pyrene	1800	1700
Dibenzo(a,h)anthracene	480J	1700
Benzo(ghi)perylene	1800	1700
N-Nitrosodimethylamine	ND	1700

N107

ENVIROTECH RESEARCH. INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1915A

VOLATILE ORGANICS

Parameter	Lab No. 45137 Client ID: MW-2R Units: ug/l	Detection Limit Units: ug/l
Benzene	ND	120
Bromodichloromethane	ND	120
Bromoform	ND	120
Bromomethane	ND	250
Carbon tetrachloride	ND	120
Chlorobenzene	ND	120
Chloroethane	ND	250
2-Chloroethylvinyl ether	ND	250
Chloroform	ND	120
Chloromethane	ND	250
Dibromochloromethane	ND	120
1,1-Dichloroethane	ND	120
1,2-Dichloroethane	ND	120
1,1-Dichloroethene	ND	120
trans-1,2-Dichloroethene	ND	120
1,2-Dichloropropane	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
Ethyl benzene	ND	120
Methylene chloride	ND	120
1,1,2,2-Tetrachloroethane	ND	120
Tetrachloroethene	ND	120
Toluene	ND	120
1,1,1-Trichloroethane	ND	120
1,1,2-Trichloroethane	ND	120
Trichloroethene	ND	120
Trichlorofluoromethane	ND	120
Vinyl chloride	ND	250
Xylenes (Total)	ND	120

ATTACHMENT N108

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1519B

ACID EXTRACTABLES

Parameter	Lab No. 45137 Client ID: MW-2R Units: ug/l	Detection Limit Units: ug/l
2-Chlorophenol	ND	10
2-Nitrophenol	ND	10
Phenol	ND	10
2,4-Dimethylphenol	ND	10
2,4-Dichlorophenol	ND	10
2,4,6-Trichlorophenol	ND	10
4-Chloro-3-methylphenol	ND	10
2,4-Dinitrophenol	ND	50
2-Methyl-4,6-dinitrophenol	ND	50
Pentachlorophenol	ND	50
4-Nitrophenol	ND	50

ATTACHMENT N109

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1519B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 45137 Client ID: MW-2R Units: ug/l	Detection Limit Units: ug/l
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Hexachloroethane	ND	10
Bis(2-chloroethyl) ether	ND	10
1,2-Dichlorobenzene	ND	10
Bis(2-chloroisopropyl) ether	ND	10
N-Nitrosodi-n-propylamine	ND	10
Nitrobenzene	ND	10
Hexachlorobutadiene	ND	10
1,2,4-Trichlorobenzene	ND	10
Isophorone	ND	10
Naphthalene	ND	10
Bis(2-chloroethoxy) methane	ND	10
Hexachlorocyclopentadiene	ND	10
2-Chloronaphthalene	ND	10
Acenaphthylene	ND	10
Acenaphthene	ND	10
Dimethyl phthalate	ND	10
2,6-Dinitrotoluene	ND	10
Fluorene	ND	10
4-Chlorophenyl phenyl ether	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
N-Nitrosodiphenylamine	ND	10
Hexachlorobenzene	ND	10

ATTACHMENT N 110

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1519B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 45137 Client ID: MW-2R Units: ug/l	Detection Limit Units: ug/l
4-Bromophenyl phenyl ether	ND	10
Phenanthrene	0.87J	10
Anthracene	ND	10
Dibutyl phthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzidine	ND	20
Butyl benzyl phthalate	ND	10
Bis(2-ethylhexyl) phthalate	ND	10
Chrysene	ND	10
Benzo(a)anthracene	ND	10
3,3'-Dichlorobenzidine	ND	20
Di-n-octyl phthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-c,d)pyrene	ND	10
Dibenzo(a,h)anthracene	ND	10
Benzo(ghi)perylene	ND	10
N-Nitrosodimethylamine	ND	10

ATTACHMENT N'''

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1915A

VOLATILE ORGANICS

Parameter	Lab No. 45138 Client ID: MW-3R Units: ug/l	Detection Limit Units: ug/l
Benzene	ND	5.0
Bromodichloromethane	ND	5.0
Bromoform	ND	5.0
Bromomethane	ND	10
Carbon tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	10
2-Chloroethylvinyl ether	ND	10
Chloroform	ND	5.0
Chloromethane	ND	10
Dibromochloromethane	ND	5.0
1,1-Dichloroethane	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	5.0	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Ethyl benzene	ND	5.0
Methylene chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Trichloroethene	ND	5.0
Trichlorofluoromethane	ND	5.0
Vinyl chloride	ND	10
Xylenes (Total)	ND	5.0

ATTACHMENT N 112

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1915

VOLATILE ORGANICS

Parameter	Lab No. 45141 Client ID: FB-100 Units: ug/l	Detection Limit Units: ug/l
Benzene	ND	5.0
Bromodichloromethane	ND	5.0
Bromoform	ND	5.0
Bromomethane	ND	10
Carbon tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Chloroethane	ND	10
2-Chloroethylvinyl ether	ND	10
Chloroform	ND	5.0
Chloromethane	ND	10
Dibromochloromethane	ND	5.0
1,1-Dichloroethane	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1-Dichloroethene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Ethyl benzene	ND	5.0
Methylene chloride	7.4	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Trichloroethene	ND	5.0
Trichlorofluoromethane	ND	5.0
Vinyl chloride	ND	10
Xylenes (Total)	ND	5.0

ATTACHMENT N14

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1519B

ACID EXTRACTABLES

Parameter	Lab No. 45141 Client ID: FB-100 Units: ug/l	Detection Limit Units: ug/l
2-Chlorophenol	ND	10
2-Nitrophenol	ND	10
Phenol	ND	10
2,4-Dimethylphenol	ND	10
2,4-Dichlorophenol	ND	10
2,4,6-Trichlorophenol	ND	10
4-Chloro-3-methylphenol	ND	10
2,4-Dinitrophenol	ND	50
2-Methyl-4,6-dinitrophenol	ND	50
Pentachlorophenol	ND	50
4-Nitrophenol	ND	50

ATTACHMENT N115

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1519B

BASE/NEUTRAL EXTRACTABLES

Parameter	Lab No. 45141 Client ID: FB-100 Units: ug/l	Detection Limit Units: ug/l
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Hexachloroethane	ND	10
Bis(2-chloroethyl) ether	ND	10
1,2-Dichlorobenzene	ND	10
Bis(2-chloroisopropyl) ether	ND	10
N-Nitrosodi-n-propylamine	ND	10
Nitrobenzene	ND	10
Hexachlorobutadiene	ND	10
1,2,4-Trichlorobenzene	ND	10
Isophorone	ND	10
Naphthalene	ND	10
Bis(2-chloroethoxy) methane	ND	10
Hexachlorocyclopentadiene	ND	10
2-Chloronaphthalene	ND	10
Acenaphthylene	ND	10
Acenaphthene	ND	10
Dimethyl phthalate	ND	10
2,6-Dinitrotoluene	ND	10
Fluorene	ND	10
4-Chlorophenyl phenyl ether	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
N-Nitrosodiphenylamine	ND	10
Hexachlorobenzene	ND	10

ATTACHMENT N116

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1519B

BASE/NEUTRAL EXTRACTABLES (con't)

Parameter	Lab No. 45141 Client ID: FB-100 Units: ug/l	Detection Limit Units: ug/l
4-Bromophenyl phenyl ether	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Dibutyl phthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzidine	ND	20
Butyl benzyl phthalate	ND	10
Bis(2-ethylhexyl) phthalate	ND	10
Chrysene	ND	10
Benzo(a)anthracene	ND	10
3,3'-Dichlorobenzidine	ND	20
Di-n-octyl phthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-c,d)pyrene	ND	10
Dibenzo(a,h)anthracene	ND	10
Benzo(ghi)perylene	ND	10
N-Nitrosodimethylamine	ND	10

ATTACHMENT N17

ENVIROTECH RESEARCH, INC.

Geraghty & Miller
290 Vincent Avenue
Hackensack, NJ 07601
Attention: Mr. Robert Burns

Report Date: 2/1/91
Job No.: 8344
N.J. Certified Lab No. 12543
QA Batch 1920

PETROLEUM HYDROCARBONS

Envirotech Sample #	Client ID	Petroleum Hydrocarbons Units: mg/l
45137	MW-2R	ND
45138	MW-3R	ND
45139	MW-4R	ND
45140	MW-5R	ND
45141	FB-100	ND

Detection Limit for Petroleum Hydrocarbons is 1.0 mg/l.

ATTACHMENT N118

GERAGHTY & MILLER, INC.
Environmental Services

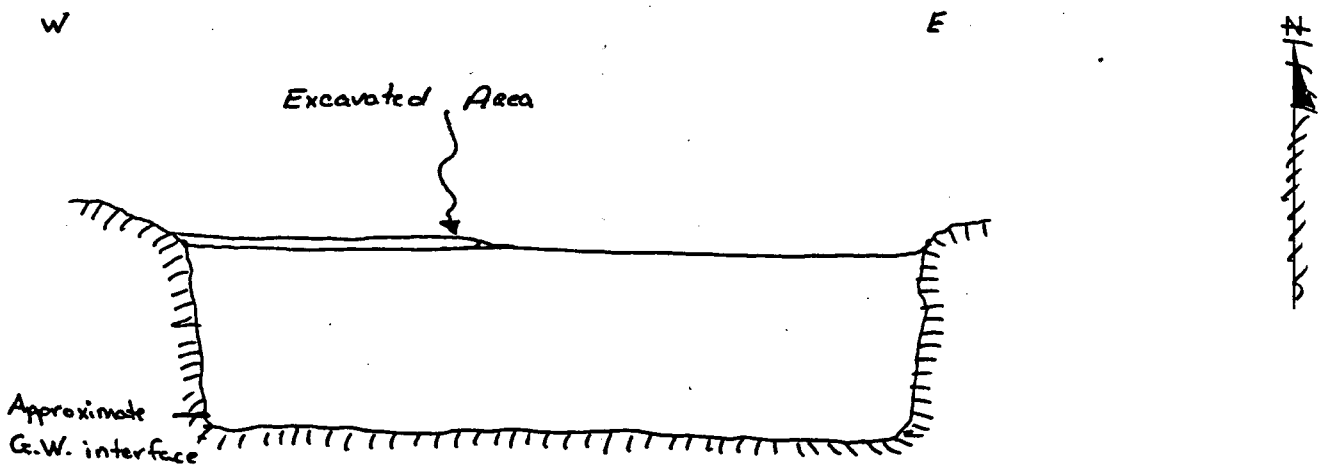
LOCATION SKETCH

Excavation
~~Well(s)~~ D Project/No. Guignon & Green / NJ03502 Page 3 of 3

Site Location Kearny, New Jersey

Observer B. Burns

(Locate all wells, borings, etc. with reference to three permanent reference points; tape all distances; clearly label all wells, roads, and permanent features) Cross Sectional View looking north.



Ground water encountered at approximately 2.25' below ground surface.

Material: Fill material: Asphalt material is on the western surface from ground surface to .25' below grade. Material consists predominately of a Intermixed Gray and Reddish Brown Coarse-medium-fine SAND, some (+) coarse-medium-fine Gravel, little (+) Silt. Cobbles and pockets of reddish brown clay are present. Cobbles are pieces of weathered Sandstone, (Passaic Formation).

0 ft. 3 ft.

ATTACHMENT N120

ATTACHMENT O

SAMPLING PLAN ADDENDUM
FORMER GUIGNON & GREEN SITE
KEARNY, NEW JERSEY

ECRA Case No. 86034

June 1991

Prepared for

Guignon & Green
Kearny, New Jersey

Prepared by

Geraghty & Miller, Inc.
201 West Passaic Street
Rochelle Park, New Jersey 07662
(201) 909-0700

ATTACHMENT O'

CONTENTS

TABLES

FIGURES

ATTACHMENT D-2

APPENDICES

A. New Jersey Department of Environmental Protection Correspondence.

A-1. Response to New Jersey Department of Environmental Protection Correspondence.

B. Monitoring Well Abandonment Documents for MW-3.

C. Quality Assurance/Quality Control.

D. Laboratory QA/QC.

ATTACHMENT 03

SAMPLING PLAN ADDENDUM
FORMER GUIGNON & GREEN SITE
KEARNY, NEW JERSEY

INTRODUCTION

On behalf of the Guignon & Green Company, Geraghty & Miller, Inc. prepared this sampling plan addendum for the former Guignon & Green site, Kearny, New Jersey, in response to a letter from the New Jersey Department of Environmental Protection (NJDEP) dated April 29, 1991 (Appendix A) and in accordance with the general guidelines provided in Environmental Cleanup Responsibility Act (ECRA) Remedial Investigation Guide (New Jersey Department of Environmental Protection, March 1990).

In May 1986, Geraghty & Miller was retained by Guignon & Green to prepare and implement an initial soil quality assessment sampling plan (Geraghty & Miller, Inc. 1986a) at the former Guignon & Green facility in Kearny, New Jersey (ECRA Case No. 86034) in accordance with the investigative requirements of the ECRA of the State of New Jersey. The initial sampling plan was approved by the NJDEP and was implemented in August 1986. The report of the initial assessment was submitted to the NJDEP in October, 1986 (Geraghty & Miller, Inc. 1986b).

Based on agreements made between the NJDEP and Guignon & Green in February 1987, a work plan for a ground-water investigation was submitted to the NJDEP (Geraghty & Miller 1987). A site ground-water investigation was implemented from January through March 1988 and the report on this investigation was submitted to the NJDEP in May 1988 (Geraghty & Miller, Inc. 1988a). As a part of this investigation, four monitoring wells (MW-1 through MW-4) were installed in accordance with the NJDEP-approved protocols. Ground-water sampling was carried out on February 9, 1988. At the request of the NJDEP, a second round of ground-water sampling was conducted in August 1988 and the results were submitted to the NJDEP in November 1988 (Geraghty & Miller, Inc. 1988b).

ATTACHMENT 04

On behalf of the Guignon & Green Company, Geraghty & Miller submitted a cleanup plan in April 1989 (Geraghty & Miller, Inc. 1989a) at the request of the NJDEP. The NJDEP rejected the proposed cleanup plan, but accepted the proposal to excavate contaminated soils and collect post-excavation soil samples for delineation purposes. The soil excavation was conducted in September 1989, and the results of the post-excavation soil sampling were submitted to the NJDEP in November 1989 (Geraghty & Miller, Inc. 1989b).

In May 1990, at the request of NJDEP, Geraghty & Miller, Inc. prepared a sampling plan addendum to excavate additional contaminated soils, collect post-excavation soil samples, replace Monitoring Wells MW-2 and MW-4 (which were destroyed by the operations of the current occupant of the facility, Cali Carting Company), and conduct the subsequent ground-water sampling (Geraghty & Miller 1990). The sampling plan addendum was approved by NJDEP with some modifications, and was implemented in December, 1990. During the implementation of field work, monitoring well MW-3 was found to be filled with sediments, and had to be sealed, and replaced with a replacement monitoring well MW-3R. The results of the soil and ground-water sampling were submitted to NJDEP in February 1991 (Geraghty & Miller 1991).

NJDEP reviewed the results submitted to them and provided their comments in their letter of April 29, 1991 (see Appendix A) which was received by Guignon & Green/Geraghty & Miller on May 7, 1991. The present submittal forms a response to the comments and a proposal to conduct additional delineation at the Guignon & Green site in Kearny as required by the NJDEP.

ENVIRONMENTAL SETTING

Site Description

The Guignon & Green site is located in a low-lying industrialized area in Kearny, New Jersey (Figure 1). The site is bounded immediately to the west and south by drainage

ATTACHMENT 05

swales and bodies of ponded surface water. There is also a swale east of the site that drains from the north onto the eastern end of the Guignon & Green property. At certain times of the year this surface water overflows onto the Guignon & Green property, inundating large portions of the site. Sampling of surface water and sediment in the ditch south of the Guignon & Green site indicated that these ponded surface water bodies contain contamination that could be emanating from neighboring facilities and disposal practices in the area (Geraghty & Miller, Inc. 1988a). The Guignon & Green property is subject to influx of surface water from the drainage swale that drains eastward on the south side of the property, or from the ponded water directly to the east, indicating at least two potential directions of contaminant transport on site. As such, potential exists that the Guignon & Green site has been and may continue to be contaminated by overflow of drainage swales and ponded surface water.

Commercial and industrial facilities surround the site and are located upstream along the swales that run adjacent to it. Numerous contamination incidents in Kearny, New Jersey have been reported and are under investigation by the NJDEP (New Jersey Department of Environmental Protection 1988b).

The commercial and industrial facilities in the area surrounding the site include the following:

- Kent Industrial
- M&A Machinery Center, Inc.
- Garry Plastics
- Tudor Products Company, Inc.
- Wikita Packaging Corporation
- Wikita Folding Box Company
- A&P
- Interstate Concentrate Company
- Honeycomb Plastics Corporation

ATTACHMENT 06

- o Warner Manufacturing Corporation
- o Portosan
- o Reliable-Miller Casket Company

Site Operational History

Guignon & Green had occupied the property since 1966 and acquired title to the property in approximately 1983. The site was reportedly not used for commercial or industrial purposes before 1966. Guignon & Green used the property for the temporary storage and wholesale marketing of creosote, pine oil, turpentine, and related products. No manufacturing activity had ever taken below at the facility, and hazardous materials have not been stored or transferred on site. The site has been occupied by Cali Carting company since 1985 and is being used for parking garbage trucks, but no garbage has been transported to or stored on site (Geraghty & Miller, Inc. 1990).

Regional Geology and Hydrogeology

The site is located near the western margin of the Hackensack Meadows (New Jersey Geological Survey 1959), between the Passaic River, approximately one mile to the west, and the Hackensack River, which is approximately two and half miles to the east. Land elevation at the site is approximately 15 feet above mean sea level, and rises up to approximately 120 feet above mean sea level to the west of the site. Regionally, surface water in the area of the site drains toward the Hackensack Meadowlands and eventually to the Hackensack River.

The regional uppermost geology units consist of peat or meadow mixed with the fine-grained sediments. This organic-rich upper layer is underlain by 10,000 to 15,000 years old glacial lake sediments, clays and silts. Below the fine-grained lake deposits are glacial tills composed mainly of sand and gravel (Argon 1980).

ATTACHMENT 07

Underlying the unconsolidated geological units is the Brunswick Bedrock and consists of shale and sandstone of the Triassic-Jurassic age Passaic Formation (Lyttle and Epstein 1987). The outcrop of the bedrock is exposed approximately one-half mile to the west of the former Guignon & Green site; the bedrock dips steeply toward the Hackensack River Valley (New Jersey Geological Survey 1979; State of New Jersey 1968).

A well search indicates that all the water withdrawal points within a five-mile radius of the site derive water from the Brunswick Group (Geraghty & Miller 1988a).

Site Geology and Hydrogeology

The previous Geraghty & Miller investigations (Geraghty & Miller 1988, 1989, 1990, 1991) indicate that two to six feet of fill, material consisting of silt, sand, gravel and debris, underlies the site. Underlying the fill is a layer of fine-grained sediments with peat and organics in the upper part. A reddish brown to gray, fine to coarse sand with some silt, trace clay and gravel was encountered between seven to 14 feet below land surface (near the bottom of the test borings).

The ground-water table at the site is within a few feet of ground surface. Ground water flows toward southeast under a gentle hydraulic gradient of approximately 0.00125 foot/foot. However, in the southwest portion of the site, adjacent to the swale, the ground water flows toward the northeast which is attributed to the hydraulic interconnection between the ponded/backed-up surface water and the shallow water table. The backed-up surface water shifted the ground-water flow towards the northeast (Geraghty & Miller, Inc. 1991).

SOIL CONDITIONS

Analysis of post-excavation soil samples collected in AREAS A, B, C, and D, and additional soil samples collected at locations surrounding the excavations as a part of the

ATTACHMENT 08

investigations conducted during the period 1986 thru 1991,indicated the presence of base neutral and acid extractables (BNs), and total petroleum hydrocarbons (PHC), and volatile organic compounds (VOs). At limited locations, the concentrations exceed the ECRA cleanup limits (Geraghty & Miller, Inc. 1991). The ECRA Cleanup guidelines for former Guignon & Green site are as follows (Geraghty & Miller, Inc. 1990):

PHC	500 parts per million (ppm)
VOs	1 ppm
BNs	10 ppm

However, the high values of the BNs, PHC and VOs found at limited locations on the site are mostly attributed to the tentatively identified compounds and are mostly estimated values. VO, BN, and PHC contamination at the site is primarily confined to the near surface soils.

PROPOSED ADDITIONAL SOIL SAMPLING

The following additional soil sampling and excavation has been proposed to complete the delineation of soil contamination at Guignon & Green site in Kearny, New Jersey. The proposed sampling locations are based on the comments provided by NJDEP in their letter of April 29, 1991. The sampling will be conducted in accordance with the NJDEP-approved protocol followed during the previous investigations (Geraghty & Miller, Inc. 1986). The sampling locations proposed for each of the four areas of concern at the site are shown in Figure 2.

1. Area A: Former Drum Storage

Guignon & Green proposes to collect samples from two selected sampling locations (A9-1 and A9-2) radially away from the former sampling location A-9. The exact sampling location will depend upon the results of field screening by using Organic Vapor Analyzer

ATTACHMENT 09

(OVA/FID) or HNu instrument. Samples will be collected from 12 to 18 inch intervals below the ground surface (bgs) to delineate the vertical extent of contamination. Since the water table occurs at very shallow depths ranging from 1.5 to 2 feet in the vicinity of this area, it is anticipated that two samples at each location will suffice to fully characterize the horizontal and vertical extent of contamination. Because the sampling location A-9 has sufficiently characterized the VO and BN compounds in the area, samples will be analyzed only for PHCs. However, if the PHC delineation samples confirm an increasing trend in PHC concentration, samples will also be analyzed for BN+15 and VO+15. The laboratory will be instructed to provide PHC analyses on a quick turn around basis so that the need for VO and BN analysis can be determined and sample analysis carried out without violating sample holding times.

Because a decreasing gradient has already been established in the direction of SA-1, as recommended by the NJDEP, no further delineation will be conducted in the direction of SA-1 (see Figure 2).

2. Area B: Tank 7 Spill

In their letter of April 29, 1991, NJDEP required Guignon & Green to conduct additional delineation for the areas associated with the former sampling locations B-10 and SB-6; B-11; and B-12. Further, NJDEP required that Guignon & Green conduct confirmatory sampling for BNs at sampling locations B-10, B-11, and B-12 based on the unacceptable MDLs. A response by Geraghty & Miller for all of the items stated by NJDEP under I(5) (QA/QC) of the aforementioned letter are furnished in Appendix A-1 to this submittal.

Guignon & Green proposes to excavate the area around B-11 and B-12 (as shown in Figure 2) and collect a post-excavation sample from the excavation from 0 to 6 inch (B11-1) and 12 to 18 inch (B11-2) intervals below the land surface for the analysis of PHCs. Those samples in which the PHCs are in excess of 500 ppm will be subjected to BN and VO

analysis. Sampling shall be limited to the unsaturated zone and the 6" interval above the water table. It is to be noted that the former sampling locations B-11 and B-12 are located very close to the stream and the property boundary (see Figure 2).

Because of the elevated MDLs, a confirmatory sample will be collected from 0-6 inch (B10-1) interval at location B-10 for the analysis of BNs. A decreasing trend of PHCs in the horizontal direction away from B-10 location has already been established based on the results of sampling at locations SB-5, SB-6, and SC-7. A sample for PHC analysis will be collected at SB-6 location from 12 to 18 inch depths (bgs) to accomplish vertical delineation (SB6-1). It is proposed to select a sampling location radially away from SB-6 and SC-7 (see below) and collect samples at 0-6 inch (SC7-1) and 12 to 18 inch (SC7-2) depth intervals below the ground surface for the analysis of PHCs. The actual sampling location will be based on the results of field screening. Additionally, if the PHCs are in excess of 500 ppm, samples will be analyzed for BNs and VOs.

3. Area C: Former Underground Storage Diesel Tank

Since the former sampling location C-9 exhibited significantly high VOs and BNs (tentatively identified compounds only), Guignon & Green proposes to excavate the area around C-9 location. Samples will be collected at 0-6" (C9-1) and 12" to 18" (C9-2) depth intervals for post-excavation sampling purposes. This post-excavation sampling would serve the dual purpose of verifying the clean zone as well as the purpose of horizontal and vertical delineation. Samples will be analyzed for PHCs, BNs, and VOs. Radially away from C-9, a sample location will be selected for the horizontal and vertical delineation of PHC contamination. The actual location for collecting samples for laboratory analysis will be determined based on the field screening results. At this selected sampling location, samples will be taken at 0-6 inch (C9-3) and 12 to 18 inch (C9-4) depth intervals (bgs) to fully delineate the horizontal and vertical extent of PHC contamination.

ATTACHMENT O"

Guignon & Green also proposes to excavate the area around the former sampling locations C-11 and C-12. The extent of excavation will be determined based on field screening results. Post-excavation sampling will be conducted. Since the water table is anticipated to occur at a shallow depth of 2 feet below the ground surface at this location, post-excavation sample will be taken along the side of the excavation, at the 12 to 18 inch (C12-1) depth interval (bgs).

NJDEP in their letter of April 29, 1991 required Guignon & Green to investigate for the possible presence of free product in the vicinity of MW-2R. The presence of any free product was never noticed in any of the monitoring wells on site during the previous investigations at the site. However, MW-2R will be examined by using an oil-water interface probe to investigate the presence of any free product. It is to be mentioned that the ground water quality data also did not show the presence of hydrocarbons.

In order to delineate the horizontal and vertical extent of PHC contamination away from the former sampling location SC-7, a sampling location will be selected radially away from SC-7 for collecting soil samples for laboratory analysis (see under AREA B). The actual sampling location will be dictated by the field screening results. At the selected location, samples will be taken at 0 to 6 inch (SC7-1) and 12 to 18 inch (SC7-2) depth intervals (bgs). Samples will be analyzed for PHCs. The sample from the 12" to 18" depth interval (SC7-2) will be subjected to BN and VO analysis.

4. Area D: Former Pump House

Since elevated levels of both VOs and BNs (combined targeted and non targeted values) were found at the former sampling location D-8, Guignon & Green proposes to excavate the area around D-8 and collect post-excavation sample from the side wall (from a zone 6" above the water table or 12" to 18" below the ground surface). This post-excavation sample (D8-1) will be analyzed for PHCs, VOs, and BNs.

ATTACHMENT 0'2

Further, Guignon & Green proposes to conduct sampling at SD-12 location from a depth of 12 to 18 inch (SD12-1) below ground surface (or approximately 6 inches above the water table) for the analysis of PHCs, VOs, and BNs to complete the vertical delineation in Area D.

Additionally, area around SD-11 is proposed to be excavated because of high levels of PHCs (10,900 ppm). The post-excavation sampling at this location would serve the clean-up verification as well as the contamination delineation. Post-excavation sample will be collected from the side wall from a depth interval of 12 to 18 inches bgs. This sample (SD11-1) will be analyzed for PHCs, VOs, and BN. If the field screening warrants further delineation, additional sampling locations (SD11-2 and SD11-3) will be proposed (see Figure 2).

GROUND-WATER CONDITIONS

Ground-water sampling was carried out at the former Guignon & Green site as a part of the previous investigations. The first round of ground-water sampling was carried out in February 1987, the results of which were submitted to NJDEP in May 1988. At the request of the NJDEP, a second round of ground-water sampling was conducted in August 1988 and the results were submitted to NJDEP in November 1988. As stipulated by the NJDEP in their conditional approval letter of Geraghty & Miller's Sampling Plan Addendum of May 1990, the Monitoring Wells MW-2R, MW-3R, and MW-4R were sampled on December 31, 1990. The results of this sampling event were reported to the NJDEP in February 1991 (Geraghty & Miller, 1991).

Based on the data obtained during the above mentioned three sampling events, it was concluded that the ground-water was not impacted by the past operations at the site.

The following activities are proposed to be performed at the site as recommended by the NJDEP in their letter of April 29, 1991.

 013

1. Since the NJDEP has accepted the proposal for no further action regarding ground-water, no additional ground-water sampling will be conducted as previously proposed in Geraghty & Miller's report of February 1991.

2. The original Monitoring Wells MW-2 and MW-4 will be located by using the previously determined survey coordinates and will be sealed and abandoned properly. The documentation of Monitoring Well abandonment will be submitted to the Bureau of Water Allocation. The information in the February 1991 report that MW-2 has been sealed and abandoned in December, 1990 was incorrectly stated. The previous original Monitoring Well MW-2 could not be located, and therefore could not be abandoned properly during the December, 1990 field activities.

3. Documentation verifying the abandonment of the original Monitoring Well MW-2 will be submitted to the Bureau of Ground Water Discharge Control. A Copy of this is included in Appendix B of this submittal. MW-2 was sealed and abandoned by Environmental Drilling, Inc. (EDI), a New Jersey licensed driller, on December 12, 1990 under the supervision of a hydrogeologist from Geraghty & Miller, Inc. (Geraghty & Miller, Inc., 1991).

4. The existing Monitoring Wells (MW-1, MW-2R, MW-3R, and MW-4R) will be sealed and abandoned. Abandonment will be performed by a driller licensed to seal monitoring wells in the State of New Jersey. The abandonment will be carried out under the supervision of a hydrogeologist from Geraghty & Miller, Inc. The Bureau of Water Allocation will be contacted prior to sealing of these monitoring wells.

5. Well abandonment will be documented by a hydrogeologist from Geraghty & Miller, Inc. and well abandonment documentation will be submitted to the Bureau of Ground Water Discharge Control with a copy to the Division of Hazardous Waste Management, NJDEP. The Well Abandonment Status Report form will be completed and returned to the Hazardous Waste Management Division.

ATTACHMENT O14

OTHER MEDIA

No other media of environmental concern was identified based on the investigations conducted at the site during the period 1986 through 1991.

OTHER TECHNICAL REQUIREMENTS

As required by the NJDEP in their letter of April 29, 1991, disposal documentation for the 75 cubic yards of soil excavated during the clean-up operations conducted at the site from December 13 to 14, 1990 will be submitted to the Department.

Additional soil generated during the excavation activities proposed in this submittal will also be subjected to waste classification sampling and the soils will be disposed of appropriately.

QUALITY ASSURANCE/QUALITY CONTROL

During the implementation of this sampling plan, Geraghty & Miller will follow the Quality Assurance/Quality Control (QA/QC) plan presented as Appendix C to this submittal. The laboratory QA/QC procedures proposed to be followed are presented as Appendix D.

HEALTH AND SAFETY

The excavation and sampling activities will be initiated using standard Level D protection. Workers will wear hard hats, safety glasses, and protective clothing. A photoionization detector will be used continuously to determine if there is a need to upgrade the level of protection. If the photoionization detector indicates organic compound concentrations in the breathing zone of 5 or more ppm above background concentration levels, standard Level C protection will be implemented, which includes full-face respirators.

ATTACHMENT 015

If the ionization detector indicates concentrations of 100 ppm or more above background concentrations, workers will exit the site and appropriate level of protection required for the site conditions will be evaluated.

This sampling plan will be implemented upon the approval of NJDEP. Geraghty & Miller will make every attempt to assure that the project proceeds as efficiently and expeditiously as possible. Geraghty & Miller will notify the NJDEP at least two weeks before initiating any field activities, or as soon as possible following any schedule change.

If you have any questions, please do not hesitate to call us.

Respectfully submitted,

GERAGHTY & MILLER, INC.

Luke Chen
Staff Engineer

Thomas Voss
Project Scientist/Hydrogeologist

B.V. Rao, Ph.D., P.G.
Associate/Project Director

LC:nr/gv
NJ03502/060691

ATTACHMENT 016

REFERENCES

Agron, S.L. 1980. Environmental Geology: Hackensack Meadowlands from Manspeizer, W., Field Studies of New Jersey Geology and Guide to Field Trips, 52nd Annual Meeting of the New York State Geological Association, pp. 216-244.

Geraghty & Miller, Inc. 1986a. ECRA Assessment Sampling Plan, Guignon & Green Company Facility, Kearny, New Jersey.

Geraghty & Miller, Inc. 1986b. Letter to M. Metlitz, Bureau of Industrial Site Evaluation, New Jersey Department of Environmental Protection, October 9, 1986.

Geraghty & Miller, Inc. 1987. Letter to M. Metlitz, Bureau of Industrial Site Evaluation, New Jersey Department of Environmental Protection, February 26, 1987.

Geraghty & Miller, Inc. 1988a. Results of the ECRA Site Investigation at the Guignon & Green Facility, Kearny, New Jersey, June 1988.

Geraghty & Miller, Inc. 1988b. Letter to B. Fresco, Industrial Site Evaluation Element, New Jersey Department of Environmental Protection, November 3, 1988.

Geraghty & Miller, Inc. 1989a. ECRA Cleanup Plan for the Guignon & Green Facility, Kearny, New Jersey, April 1989.

Geraghty & Miller, Inc. 1989b. Letter to B. Fresco, Bureau of ECRA Applicability and Compliance, New Jersey Department of Environmental Protection, November 16, 1989.

Geraghty & Miller, Inc. 1990. Sampling Plan Addendum, Guignon & Green Site, Kearny, New Jersey.

Geraghty & Miller, Inc. 1991. Implementation of the Sampling Plan Addendum of May 1990, Guignon & Green Site, Kearny, New Jersey.

Kratina, K. 1991. Section Chief, Bureau of Environmental Evaluation and Cleanup Responsibility Assessment, Letter to R. Frazier, Frazier & Frazier Attorneys at Law, April 29, 1991.

Lyttle, P.T., and J.B. Epstein. 1987. Geologic Map of the Newark 1° x 2° Quadrangle, New Jersey, Pennsylvania and New York: U.S. Geologic Report Series No. 1.

ATTACHMENT 017

REFERENCES (Cont'd)

New Jersey Geological Survey. 1959. Department of Environmental Protection. Bedrock Map of the Hackensack Meadows, Geological Report Series No. 1.

New Jersey Department of Environmental Protection. 1990. Environmental Cleanup Responsibility Act (ECRA) Remedial Investigation Guide.

State of New Jersey. 1968. Department of Conservation and Economic Development, Division of Water Policy and Supply. Ground-water Resources of Essex County, New Jersey.

ATTACHMENT 018

Table 1. June 1991 Sampling Plan Addendum Summary Table, Former Guion & Green Site, Kearny, New Jersey

Location and Identification	Matrix	Depth of Sample (ft bls)	Analytical Parameters
Area A			
A9-1	Soil	12-18"	PHC*
A9-2	Soil	12-18"	PHC*
Area B			
B10-1	Soil	0-6"	BN+15
B11-1	Soil	0-6"	PHC**
B11-2	Soil	12-18"	PHC**
SB6-1	Soil	12-18"	PHC**
Area C			
C9-1	Soil	0-6"	BN+15, PHC, VO+15
C9-2	Soil	12-18"	BN+15, PHC, VO+15
C9-3	Soil	0-6"	PHC
C9-4	Soil	12-18"	PHC
C12-1	Soil	12-18"	BN+15, PHC, VO+15
SC7-1	Soil	0-6"	PHC
SC7-2	Soil	12-18"	BN+15, PHC, VO+15
Area D			
D8-1	Soil	0-6"	BN+15, PHC, VO+15
SD11-1	Soil	12-18"	BN+15, PHC, VO+15
SD11-2***	Soil	12-18"	BN+15, PHC, VO+15
SD11-3***	Soil	12-18"	BN+15, PHC, VO+15
SD12-1	Soil	12-18"	BN+15, PHC, VO+15

BNs	Base/neutral and acid extractable compounds.
ft bls	Feet below land surface.
PHC	Total Petroleum Hydrocarbons.
VOs	Volatile organic compounds.

Trip blank samples will be submitted with each shipment for analysis of VO+15.

Field blank samples will be collected for every ten samples on every day that sampling occurs, and analyzed for BN+15, PHC, and VO+15.

* If PHC increasing trend occurs, the sample will be subject to BN+15 and VO+15 analyses.

** If PHC in excess of 500 parts per million (ppm), the sample will be subject to BN+15 and VO+15 analyses.

*** The collection of samples will depend on field screening results.

NJ03502/Junetbl

ATTACHMENT 019

APPENDIX A

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION CORRESPONDENCE

ATTACHMENT 020

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-7141
Fax # (609) 633-1454

APR 29 1991

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Robinson Frazier, Esq.
Frazier & Frazier
1515 Riverside Avenue, Suite A
Jacksonville, FL 32204

Re: Guignon & Green Company
410 Bergen Avenue, Kearny Town, Hudson County
ECRA Case #86034
Sampling Results of Sampling Plan Addendum Dated: February 22, 1991

Dear Mr. Frazier:

The Department has completed its review of the above referenced report. The proposal for no further excavation and paving of contaminated areas of the site is unacceptable. Guignon & Green's conclusion and proposal for the site have been based solely on the impact to groundwater. The necessity for remediation of soils at the site should also be based on a direct contact scenario.

The paving or "capping" of contaminated soils is not considered to be remediation of contaminated soils and is unacceptable for this site. Pavement may be proposed to prevent soil contamination in the future; however, soils shall be remediated prior to emplacement of the pavement. Because additional delineation is necessary before a Cleanup Plan can be developed for this site, Guignon & Green shall submit a revised Sampling Plan, with appropriate review fees, to address the areas that require additional delineation and or remediation.

The following comments are provided in order to help Guignon & Green in preparing the revised Sampling Plan.

I Soil Conditions

Guignon and Green has ceased operations at the site. If non-residential (industrial) cleanup levels are considered for the site, then a deed restriction shall be required to guarantee industrial use. Guignon & Green shall review the enclosed deed restriction requirements during the next phase of the investigation. Guignon & Green shall be required to incorporate the restrictions into the deed prior to the Department issuing a Full Compliance Letter or Negative Declaration if industrial cleanup levels are to be employed at this site.

ATTACHMENT 021

General PHC guidance was provided in the October 4, 1990 NJDEP Sampling Plan approval regarding the horizontal and vertical delineation or confirmation of reducing concentrations for PHC contamination. An attempt to follow this guidance was demonstrated by Geraghty & Miller, Inc., consultants to Guignon & Green; however, additional work is necessary as detailed below.

The fact that these guidelines may ONLY be applied when the PHC contamination is from a known petroleum product source should be emphasized. A cleanup level of 10,000 ppm for PHCs may be applicable for the site with the incorporation of a deed restriction as mentioned above.

The delineation and post-excavation sampling conducted at the site appears to be limited to the 0-6" interval (except for 18-24" for Volatile Organic analysis). Although this may provide the data necessary for horizontal delineation, the data for vertical delineation have been omitted.

The PHC concentrations above 500 ppm proposed to remain on site shall be fully delineated or a decreasing gradient established horizontally and vertically in the unsaturated zone (soil not influenced by ground water). Sample collection shall not be from below the water table. Sampling shall be limited to the unsaturated and the 6" interval above the water table (AWT). Guignon & Green shall confirm the elevated concentrations of PHC (above 500 ppm) proposed to remain on site represents the worst case for each sample location.

Although the non-targeted compounds are tentatively identified and reported as estimated values, the compounds are used by the Department in the evaluation of contamination at the site. The reporting of the non-targeted compounds as separate from the targeted is acceptable and preferable.

In areas where horizontal and vertical delineation is incomplete, post-excavation sampling should serve a dual purpose. In addition to the verification of a clean zone, the post-excavation sample locations and depths should be selected for the purpose of complete delineation.

1. Area A: Former Drum Storage

The cleanup conducted for this area may be acceptable; however, the PHC delineation and characterization is incomplete.

Former sampling locations A-9, 0-6" and SA-1, 0-6" are reported with PHC concentrations of 4,510 ppm and 2,200 ppm, respectively. The sampling location SA-1 may define a reduction in contamination in one direction for the 0-6" depth; however, full horizontal and vertical delineation is incomplete.

Guignon & Green shall propose the collection of additional samples for PHC analysis radially from former sample location A-9. Guignon & Green need not propose the collection of samples in the direction of sample SA-1. Samples shall also be proposed from deeper increments than the 0-6 increment to verify a decreasing concentration in the vertical direction. Only PHC analysis is required, because sample location A-9 has sufficiently characterized the VO and BN compounds in the area. Provided Guignon & Green establishes that sample location A-9 represents the worst case PHC contamination in this area, no further cleanup may be required. Guignon & Green shall propose the collection of samples for BN+15 and VO+15 analysis, should any of the PHC delineation samples confirm an increasing trend in the PHC contamination.

2. Area B: Tank 7 Spill

Additional delineation shall be proposed for the areas associated with former sampling locations B-10 and SB-6; B-11; and B-12.

The MDLs are unacceptable for BN results for samples from locations B-11 and B-12 as stated below (QA\QC comments). Although targeted compound concentrations are reported, the concentrations are "J" values and confirmation sampling is necessary.

B-10 - Location SB-6 (outward from location B10) demonstrates a reduction in PHC concentrations for the 0-6" interval; however, no vertical delineation has been conducted at either location.

Based on the elevated MDLs, confirmatory sampling for BNs shall also be proposed at (B10). In addition to the PHC delineation sampling, verification of VO and BN concentrations at locations with PHCs >500 ppm associated with these locations shall be proposed.

B-11 - Confirmatory sampling for BNs shall be proposed based on unacceptable MDLs.

Delineation of the PHCs (10,700 ppm at 0-6") and associated BN and VO sampling shall be proposed both horizontally and vertically.

B-12 - Confirmatory sampling for BNs shall be proposed, based on the unacceptable MDLs.

Delineation of the PHCs and associated BN and VO data shall be completed. The necessity for remediation shall be evaluated based on the results.

3. Area C (Diesel Tank)

Confirmation sampling shall be proposed for VO and BN at locations C-9, C-11 and C-12, based on the unacceptable MDLs.

PHC delineation shall be proposed associated with locations C-9, C-11 and C-12. Remediation at the C-12, (0-6" PHC-19,900 ppm) location is necessary and shall be proposed.

Further PHC delineation and BN and VO data shall be proposed radially from location SC-7 (PHC 1,300 ppm).

The soil contamination associated with the MW-2R location shall be addressed. An HNU reading of 160 ppm was noted at the 2-4' interval on the sample/core log. This interval was also noted as saturated with oil.

The possibility for the presence of free product in this area shall be investigated and reported.

4. Area D (Former Pump House)

Confirmation sampling for BNs shall be proposed at location D-8, based on the unacceptable MDLs. Delineation of the PHC (1,350 ppm, 0-6") and VO (31 ppm, 18-24") contamination associated with the D-8 location shall be proposed.

ATTACHMENT 023

Verification sampling for BN and VO shall be proposed at the SD-12 location (associated with D-7). The PHC delineation shall be completed vertically at these locations.

The PHC concentrations appear to increase horizontally from location D-9, (0-6" 1,580 ppm) to location SD-11 (0-6" 10,900 ppm). PHC delineation shall be proposed with associated BN and VO sampling in this area.

5. QA/QC

The comments below are a result of review of the soil and groundwater results and data deliverables. The actions as a result of unacceptable results will be discussed within the area of concern.

a. Laboratory Job #8275 - Some of the samples for BN analyses appear to be mislabeled on the Laboratory Chronicle. The date recorded is 12/2/90 and probably should have been 1/2/91.

b. Some of the VO detection limits are elevated in the laboratory soil blanks at 500ug/kg to 1,000ug/kg and 25ug/kg to 50ug/kg. The CLP CRQLs for VOs are 5ug/kg to 10ug/kg.

c. The reported "ND" values reported for the BN results for sample 44568(D8) are unacceptable based on MDLs from 17ppm to 33ppm for individual analytes. In addition, two surrogate recoveries for this sample are out on the high end.

d. The reported "ND" values reported for the BN results for sample 44565,-66(B11,B12) are unacceptable based on MDLs of up to 17ppm for individual analytes.

e. Laboratory Job #8283 - The samples below are unacceptable for use as "ND" or to define clean zones based on the following:

Sample Number (Designation)	Fraction	Comments
44607 (C9)	VO	MDLs 12-25ppm(1)
"	BN	MDLs 33-67ppm; two surrogates out
44609 (C11)	VO	MDLs 12-25ppm
"	BN	MDLs 17-33ppm
44610 (C12)	VO	MDLs 12-25ppm
"	BN	MDLs 6.7-13ppm; one surrogate out

(1) Range of MDLs for individual analytes.

f. Laboratory Job #8344 (Groundwater) - The time of sampling is recorded on the chain of custody; however, the date of sampling is not recorded. Guignon & Green shall verify the 12/31/90 sampling date.

g. The reported "ND" values for the AE results for samples 45138,-40 (MW3R,-5R) are unacceptable based on two surrogate recoveries out low for each sample. The AE results are qualified for sample 45137 (MW2R) based on one surrogate recovery out on the low end.

ATTACHMENT 024

6. Oil Spill/ Wood Chip Area

Guignon & Green has verified the oil spill/ wood chip area previously identified as an area of concern is completely off the referenced property. Because the area was not identified as an area of concern during the April 22, 1986 initial ECRA inspection, and because Guignon & Green ceased operations over 6 years ago, BEECRA has accepted the argument that the spill is a result of recent dumping and not a result of the former operations of Guignon & Green. Guignon & Green has been notified BEECRA will no longer pursue this as an ECRA area of concern. However, be advised the area will be addressed by another Bureau within the NJDEP. Guignon & Green may be contacted by another Bureau regarding the spill area.

7. All proposed sample locations shall be clearly labeled on a scaled map. Former sample locations shall also be included on the map to justify the location and depths of the proposed sample locations.

II Ground Water Conditions

1. The proposal for no further action regarding ground water is acceptable.

2. The original MW4 must be located and sealed and abandoned properly. One aspect of a monitoring well certification includes the surveying of all monitoring wells. By using the previously determined coordinates for monitoring well MW-4, Guignon & Green should be able to locate the well and properly seal it. This matter will be referred to the Bureau of Water Allocation for further review.

3. Documentation verifying that the original MW2 and MW3 have been properly sealed and abandoned shall also be submitted to the Bureau of Ground Water Discharge Control.

4. Guignon & Green shall properly abandon all existing and former monitoring wells installed as part of ECRA case #86034. Abandonment shall be performed by a driller licensed to seal monitoring wells in the State of New Jersey. The Bureau of Water Allocation shall be contacted prior to sealing any wells.

5. Guignon and Green shall complete the attached Well Abandonment Status Report Form and return it to the Department in a timely fashion. All monitoring wells installed at the site (MW1, MW2, MW2R, MW3, MW3R, MW4, and MW4R) shall be included on the form, regardless of their present status.

III Other Media

1. None.

IV Other Technical Requirements

1. Guignon & Green shall provide disposal documentation for the approximately 75 cubic yards of soil excavated in December of 1990.

V Permits

1. None.

ATTACHMENT 025

VI ECRA Guidelines for Data Presentation and Proposals

Data Requirements

A. A site map which lists the concentrations of all significant contamination found (above ECRA action levels) at all sampling locations. The labeling of data shall be keyed to facilitate interpretation, especially at locations where more than one type of contaminant is found. The use of contaminant isopleth maps is also encouraged.

Data/Results Presentation

Because of case management workloads and volumes of data reviewed and processed, the noted formatting requirements are essential to insure complete and timely review of the submittal.

The results of sampling shall be provided in a tabular format. Information shall include the sample number, location, interval and depth of sample, sample matrix and the analytical methods used.

Tier II deliverables shall be identified and separated from the submittals, discussion, conclusions and data summary sheets. The enclosed Laboratory Deliverables checklist shall be completed and returned with the Tier II deliverables.

All submittals of text/data shall be forwarded in triplicate and shall be properly paginated, bear a table of contents and be bound (1 copy may be unbound for filing purposes). Only one copy of the Tier II deliverables is required.

Failure to organize submittal information as outlined above may result in the returning of the submittal for correction and resubmission. Failure to address these conditions and provide documentation where required shall constitute non-compliance with ECRA. No final approvals will be issued until all issues are resolved.

VII General Requirements

1. Guignon & Green Company shall submit the revised Sampling Plan in triplicate within 45 days upon receipt of this letter.

2. Guignon & Green Company shall submit the appropriate fee as required by N.J.A.C. 7:26B-1.10. The enclosed Fee Submittal Form is provided for guidance to determine the fees required; this form shall be completed and returned with the submittal package.

Contamination has been determined to exist above a level found acceptable by NJDEP, therefore Guignon & Green Company shall prepare and submit a revised Sampling Plan in a form which meets the criteria of N.J.A.C. 7:26B-3.2(c)11. The horizontal and vertical extent of contamination shall be determined before an approvable Cleanup Plan can be developed.

ATTACHMENT 026

If you have any questions, please contact the Case Manager, Joshua Gradwohl at (609) 633-7141.

Very truly yours,

for Kevin Kratina, Section Chief
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

cc: J. Morrow, BEERA
D. Haymes, BGWDC
Victoria Yoska
Tom Voss, Geraghty & Miller

ATTACHMENT 027

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028 - 401 EAST STATE STREET
TRENTON, NEW JERSEY 08625-0028

≈ 0.52 ≈

THOMAS VOSS
c/o GERAGHTY & MILLER, INC.
290 VINCENT AVENUE
HACKENSACK, N.J. 07

MAY 1991
GERAGHTY & MILLER, INC.

NOTICE: NUMBER OF NEW ADDRESS
:GERAGHTY & MILLER
201 W PASSAIC ST #3RDFL
ROCHELLE PARK NJ 07662-3120

ATTACHMENT 02

APPENDIX A-1

RESPONSE TO NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION CORRESPONDENCE

ATTACHMENT 029

EVALUATION OF NJDEP DATA REVIEW COMMENTS REGARDING THE SAMPLING RESULTS SUBMITTED IN GERAGHTY & MILLER'S FEBRUARY 1991 REPORT FORMER GUIGNON & GREEN SITE, KEARNY, N.J.

Provided below is an assessment of the New Jersey Department of Environmental Protection (NJDEP) review of the Guignon & Green Company sampling results reported in support of ECRA Case #86034. The NJDEP comments addressed a number of sample reporting issues in the supporting analytical data packages submitted by Envirotech Research, Inc. Specifically, NJDEP invalidated volatile and semi-volatile organic analyses for several site samples due to reporting of non-detects at elevated compound quantitation limits, estimation of results and poor surrogate recoveries found in the samples. Additionally, some minor deficiencies were found in the data deliverables package by NJDEP which appear to be rectifiable for the data package submissions by Envirotech. More detailed specifics are given in the following discussion on a sample specific basis.

Area B: Tank 7 Spill Samples

In the NJDEP summary, base-neutral (BN) semivolatile results were rejected for samples B-10, B-11 and B-12 due to elevated sample quantitation limits reported for non-detects. Each of the BN analyses were performed at a dilution level ranging from a factor of ten (1:10) to fifty (1:50) in the respective sample. Dilutions were required due to inherent levels of both targeted and non-targeted sample constituents. In reviewing the sample results for each of the above, varying levels of Method 8270 target polynuclear aromatic (PNA) compounds were detected at concentrations of 380-33,000 ug/Kg. These compound results were reported as estimated due to detection below the quantitation limit after correction for sample dilution. Additionally, in the sample library searches for non-target compounds, several other organic compound classes (substituted benzene isomers, non-target PNAs and hydrocarbons) were detected in the samples. In some instances, the

total estimated concentrations of tentatively identified compounds (TIC) and unknowns approached percent levels.

In accordance with the analytical protocol, compound quantitation is based on results obtained within the working range of the GC/MS instrument. When the sample levels are above the linear range of the target analytes, sample dilution is required to reduce the instrument response obtained in sample analysis to a level within the upper calibration range. With respect to semivolatile analyses performed by Method 8270, the highest standard analyzed at Envirotech for target compounds was at a concentration of 120 parts per billion (ppb). As such, for all compounds exceeding the upper calibration standard, sample dilutions needed to be analyzed for quantitation within the linear range. This did not preclude additional dilutions necessitated for interfering non-target coextractant TICs and unknowns as detected in Area B semivolatile analyses. While a lesser dilution in the absence of TICs may have been appropriate for these samples in order to report target compounds above and non-detects at the quantitation limit, the TIC concentrations masked target compounds and hindered quantitation. With respect to the laboratory, undiluted sample analysis may have also adversely affected instrumentation and caused system failure stemming from the contamination and sample carryover.

In more detailed review of Area B samples addressed by NJDEP, samples B-10 and B-12 were analyzed at a lower dilution factor than sample B-11. As result of this, several BN target compounds (phenanthrene, fluoranthene, pyrene, chrysene and benzo(b)fluoranthene) were calculated above the quantitation limit and reported unqualified. As the NJDEP disqualified BN sample results based on the reporting of estimated concentrations (J qualifier), these sample results should not necessarily be disqualified as not all of the compound results were estimated.

With respect to sample B-11, all positive detects were estimated based on the level of dilution required to reduce the TIC levels on the GC/MS instrument. Reanalysis of this sample to confirm positive detects at lower quantitation limits would presumably lead to the

same results and compound qualifications. Although the PNA estimated concentrations range from 720 to 7900 ug/Kg in the sample, the TIC concentrations are estimated at an approximate level of 0.28% and present an impediment to analysis of target analytes at the ppb level.

Area C: Diesel Tank Samples

In the NJDEP data review, volatile and BN results for samples C-9, C-11 and C-12 were similarly rejected based on estimation of positive target compounds, reporting of non-detects at elevated quantitation limits and, in some cases, due to exceeded surrogate recoveries.

In the analysis of volatiles, the Area C samples were prepared and analyzed following Method 8240 protocols for high level compound analysis. This analysis protocol calls for a sample aliquot (approximately 4 g) to be extracted into methanol and an aliquot of the methanol extract to be added to reagent water containing appropriate levels of surrogate and internal standards. The total amount of methanol extract to be added to reagent water is based on the approximate concentration range expected based on prior knowledge and/or sample screening. The reagent water is then purged directly for the volatile analysis. As per Method 8240, all samples with expected concentrations of >1.0 mg/Kg should be analyzed by this method.

Using the high level preparation protocol for volatile analysis, the contract laboratory protocol (CLP) contract required quantitation limits (CRQLs), referred to in the QA/QC section of the NJDEP letter in Item 5b, are adjusted nominally by a factor of 125. If a lesser methanol addition is used, based on expected sample concentration levels, the factor by which the quantitation limits are raised is increased. Hence, 5 ug/Kg to 10 ug/Kg quantitation limits are nominally raised to level of 625 to 1250 ug/Kg in the analysis of medium level samples. If a higher dilution is used, the quantitation limits are adjusted

accordingly. It appears from the raw data that final dilutions of 1:2500 were required in the analysis of certain Area C samples.

In reviewing the volatile results in greater detail, toluene was detected at a level of 17000 ug/Kg in sample C-9 with TIC and unknown constituents levels approaching 2.0%. No volatile target compounds were detected at the elevated quantitation limits reported in sample C-11 for which total TIC and unknowns were calculated at 0.75% of the sample constitution. In sample C-12, two aromatic compounds were reported at estimated concentrations while total xylenes were reported as positive detects at the quantitation limit after correction for dilution factor. Percent levels of TICs and unknown hydrocarbons were also reported for sample C-12.

As toluene and xylenes were reported at levels in excess of the ECRA guidelines for samples C-9 and C-12, the rationale for reanalysis of the volatile fraction for other TCL analytes reported as non-detects (ND) is questionable. With respect to C-11 volatile results reported as ND for all TCL analytes, the presence of high levels of TICs and hydrocarbons in the sample, seemingly, preclude analysis at a lesser dilution using Method 8240. In all probability, TCL analytes would have been detected if present (although estimated) at a threshold of 1200 - 2500 ug/Kg in this sample based on the dilution level employed. As this is still above the ECRA limit for total volatiles, reanalysis of this sample may not provide any additional information beyond that already available.

In the analysis of BN semivolatiles for Area C, dilutions were prepared at the sample preparation stage and/or on the final extract preceding instrumental analysis. Dilutions are made based on sample extract appearance, viscosity and/or screening information. In sample C-9 BN analysis, a dilution of the extract resulted during sample preparation (1:10) and an additional 1:10 dilution was applied prior to instrument analysis. The BN analysis was performed on a final 1:100 diluted sample extract. As seen in other site samples, several PNAs were detected in estimated concentrations ranging from 1400 to 4900 ug/Kg. As noted by NJDEP, quantitation limits were reported at 33,000 and 67,000 ug/Kg

dependent on analyte after correction for the 100x dilution. In the library searches associated with the semivolatile analyses, several acid compounds, substituted benzene isomers and hydrocarbons were observed in Area C samples at near percent levels. Also in sample C-9, two BN surrogates were calculated to be outside of method control limits (0% and 141% for nitrobenzene-d5 and 2-fluorobiphenyl, respectively). The nitrobenzene-d5 recovery was footnoted as not recoverable due to dilution for high levels of coeluting interferences. As zero percent recovery for any surrogate is reason for rejection (R) of the analytical fraction according to the NJDEP validation standard operating procedure (SOP), reanalysis of this sample was warranted to demonstrate matrix effect. As the laboratory did not verify the matrix effect, no valid BN data exists for this sample within the NJDEP acceptance guidelines.

For sample C-11, the sample extract was diluted by a factor of fifty prior to analysis. In the BN analysis, many PNA compounds were detected and, as a result of the dilution level, were qualified as estimated. High levels of TICs and unknowns were present in this sample and accounted for the dilution level used in analysis.

In the analysis of sample C-12, the raw data provided in the package indicates that the sample extract was analyzed at two dilution levels (20x and 200x). The quantitation limits reported (6700-13000 ug/Kg) were based on the 20x dilution analysis. The NJDEP review indicates that the BN sample results are unacceptable based on estimated results, elevated quantitation limits for non-detects and on surrogate recovery outside of criteria. In reviewing the raw data, random verification of some positive values for sample C-12 appear to indicate that results were derived from the 20x dilution. However, the surrogate recoveries submitted on the quality assurance summary reported the surrogate recoveries from the 1:200 dilution. One surrogate was footnoted as not recovered due to the high dilution level employed in the analysis. The recoveries for the 1:20 dilution analysis are 112%, 109% and 102% for nitrobenzene-d5, 2-fluorobiphenyl and terpheny-d14, respectively, and are within the specified control limits. The 1:200 dilution analysis profile was also used

as the basis of the library search evaluation. This analysis should have been performed using the 1:20 dilution and is believed to have resulted from laboratory error.

Finally, as many of the PNA compounds in sample C-12 were reported above the corrected quantitation limits, reanalysis of this sample does not appear to be required on the basis stated in the review. Laboratory correction for surrogate reporting and incorporation of the appropriate library search information may be necessary in order to substantiate the assumptions made above.

Area D: Former Pump House

In the BN analyses of sample location D-8, high surrogate recoveries, in addition to elevated sample quantitation limits, were cited as reason for rejection of data and proposed reanalysis. In reviewing the surrogate recovery data, the nitrobenzene-d5 recovery (121%) was outside the upper control limit by 1% and the 2-fluorobiphenyl surrogate recovery (138%) was out by 23% of the respective upper control limit. With respect to the quantitation limits, a 1:100 dilution was performed on the sample extract due to high, inherent TIC levels (total 0.27%) which resulted in all positive TCL detects to be qualified as estimated. These sample analysis results are similar to sample B-11 in that analysis at a lesser dilution would create a potential instrument overload during analysis. As for the surrogate recoveries exceeding the criteria limits, the laboratory is required to re-extract and reanalyze samples when surrogate recoveries are out specification. Since there is no evidence of reanalysis, the following actions are taken in accordance with the NJDEP validation SOP for evaluation of organics. In the event of one surrogate outside of the control limits per analytical fraction, the analytical fraction data are quantitatively qualified as estimated (J). If two or more surrogate recoveries per analytical fraction are out specification, the affected analytical data are rejected (R). On the basis of two surrogates outside of specification, NJDEP has rejected BN sample data for sample D-8. As the nitrobenzene-d5 recovery was minimally outside of the criteria, and both surrogates

recovered high, sample results would be biased high. Based on this, the acceptance of BN data as estimated for this sample is recommended.

Groundwater Samples

In the analysis of acid extractables for MW3R and MW5R, the non-detect data for the acid fraction associated with these samples were rejected by NJDEP as two acid surrogate recoveries were out of specification in each sample. Sample MW2R acid data were accepted with qualification as estimated (J) since one acid surrogate was recovered outside of the control limits. As per the NJDEP validation SOP, when surrogate recoveries do not meet acceptance criteria, the affected fraction shall be reextracted and reanalyzed to establish whether the nonconformance is due to the sample matrix or to a laboratory problem. Envirotech, in the supporting raw data package, indicates the QC exceedance was due to matrix interferences in these samples. In fact, the semivolatile library searches for TICs and unknowns do indicate the presence of many coeluting acid compounds. However, as the laboratory has failed to demonstrate matrix effect through reanalysis, or alternatively did not include the reanalysis data in the analytical package, the validation guidelines prescribe that the data be qualified as NJDEP declared in the review. Verification of whether reanalysis was performed and inclusion of those results, if available, in the data package could change the data qualifications and affect the data usability.

General QA/QC

With respect to Item 5a, based on the raw data for the Laboratory Job #8275, the BN analyses for all samples associated with this project were analyzed on 1/2/91. The year on the laboratory chronicle was incorrectly entered as 1990.

Item 5b in the QA/QC summary of the NJDEP review noted that the volatile laboratory soil blanks in the Laboratory Job #8275 were reported at quantitation limits of 500 ug/Kg to 1000 ug/Kg and 25 ug/KG to 50 ug/Kg. As reported, this is not in

accordance with the CLP CRQLs for soil volatile analyses. In reviewing the analytical data packages, it appears that the laboratory reported the quantitation limits for the method blanks after applying the lowest level dilution factor used in associated sample analyses. If this assumption is verified with the laboratory, then these reporting anomalies could be rectified by the laboratory and QA summaries resubmitted reporting the uncorrected quantitation limits. This would presumably rectify the blank reporting deficiencies found in the data review.

Findings and Recommendations

It appears that the majority of Guignon & Green organic fraction sample results were impacted by the presence of hydrocarbons, non-TCL TICs and unknowns. The same TICs were confirmed in both the volatile and semivolatile fractions for most samples. The TIC sample constituents ranged in the hundred thousand part per million (ppm) to percent level range. As such, using Methods 8240 and 8270 for analyses, few alternatives to sample dilution exist to control instrument load and response.

Sample cleanup methodologies are available and may remove certain high molecular weight co-extractant interferences. Historically, sample clean-ups for hydrocarbon constituents do not typically alleviate these interferences in entirety, if and by themselves. Additionally, in most clean-up procedures, some rudimentary form of dilution is an inherent part of the procedure.

As PNA compounds specifically appear to be present at the site, alternative analysis using high performance liquid chromatography (HPLC) Method 8310 may be warranted for analysis of PNAs in the site samples. Method 8310 is a SW-846 method specific to the analysis of PNAs in which simultaneous ultraviolet and fluorescence detection of PNAs are employed. Although, dilution may still be required to remove interferences, confirmation of sample values is provided in analysis by the use of dual detectors.

In addition to the non-TCL sample constituents, high levels of TCL analytes were present in the samples. As noted, TCL were estimated in some samples, but were reported at or above the quantitation limits in others. As the BN analyses for samples B-10 and B-12 quantitate positive TCL analytes above the ECRA total BN guideline, the rejection of these analyses based on reported ND results for non-detects at elevated quantitation limits is secondary to the levels of positive TCL detected.

Confirmatory reanalysis of sample B-11 BN fraction may be considered at a lesser dilution level to lower the quantitation limits. If the sample screening information duplicates the TCL and TIC constituent levels found in the initial analysis, the laboratory may implement a similar dilution scheme and no additional data may be provided by the reanalysis.

With respect the sample D-8, high estimated levels of PNAs were reported. Reanalysis of the BN sample analysis is not recommended as the total volatiles are above the ECRA guideline due to the toluene level and would be evaluated for possible ECRA clean-up on that basis. Verification of PNA levels is suggested after the sample location has been initially remediated.

On the basis of positive volatile TCL in samples C-9 and C-12 found above the ECRA guideline for total volatiles in soil, volatile reanalysis is not recommended for these two sample fractions prior to any future site remediation. Reanalysis of sample C-11 volatiles may provide little added data as the TIC and hydrocarbon level preclude analysis by other than a high level volatile method with additional dilution. As noted previously, high level volatile analysis automatically quantitates TCL analytes at a minimum of 0.5 ppm quantitation limits.

In Area C BN analyses, sample C-12 data should be acceptable for use with no qualification after the laboratory corrects the reported BN sample surrogate recoveries. As the positive detect PNA compounds were reported above the quantitation limits and the

ATTACHMENT P

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Metro Regional Office
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3960

John J. Trela, Ph.D., Director

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 151 929 672

August 14, 1990

Mr. Robinson Frazier
Frazier & Frazier - Attorney at Law
Suite A 1515 Riverside Ave.
Jacksonville, FL 32204

RE: Guignoni & Green Co.

Dear Mr. Frazier,

The attached Notice of Violation (NOV) is being sent to you for violations of the New Jersey State Spill Compensation and Control Control Act,

N.J.S.A. 58:10-23.11c - Discharge of a hazardous substance is prohibited.

N.J.S.A. 58:10-23.11e - Failure to notify the Department of a hazardous substance discharge.

for the spill involving the Guignoni and Green Co. (401 Bergen Ave. in Kearny, N.J.) and the property immediately adjacent to the Guignoni and Green Co. An investigation conducted by this office has indicated that a discharge of a large quantity of oil has occurred, and that the Guignoni and Green Co. is the likely source for this discharge.

This investigation indicated that this large quantity of oil was discharged into wetland areas. The discharged oil is similar to materials dealt with by Guignoni and Green. This material was located directly downgradient of Guignoni and Green and does not appear to be the result of illegal dumping.

Past manufacturing practices indicate that Guignoni and Green was the only business in the area that was involved in extensive handling of petroleum products. Guignoni and Green was known to accept bulk shipments of various oils (via railcar) and store them in on-site tanks. Guignoni and Green then blended and packaged these oils into various sized drums which were then sent off to their customers. Guignoni and Green were known to store several hundred drums of of material on-site, at any given time.

A lab analysis was performed on a sample collected by the Hudson Regional Health Commission. This lab analysis indicates that the discharged oil is a weathered petroleum based oil, and does not appear to be a motor oil. This material was found to be a two (2) phased, liquid material exhibiting a pine, or turpentine smell to it. Also, staining on surrounding wetland vegetation indicated a long term exposure to the material.

ATTACHMENT P'

This material does not appear to have originated from any of the other surrounding facilities based on the investigation performed by Departmental hydrogeologists. They concluded that the source of the discharge is the Guignoni and Green property, and that groundwater has carried some of this material away from the property in a southerly direction, along the railroad embankment. Conrail has also been notified of the discharge to the railroad property.

Please submit in writing the corrective measures the Guignoni and Green Co. plan to undertake to remediate this problem.

Should any questions arise concerning this matter, feel free to contact me at (201) 669-3960.

Sincerely,

Stephan Szardenings
Environmental Specialist

ATTACHMENT P2

HWM OHC
1/90

New Jersey Department of Environmental Protection
Division of Hazardous Waste Management
2 Babcock Place
West Orange, N.J. 07052
(201) 669-3960

Let's protect our earth

NOTICE OF VIOLATION

ID NO. N/A DATE AUGUST 3, 1990

NAME OF FACILITY GUIGNONI & GREEN CO.

LOCATION OF FACILITY 410 BERGEN AVE. KEARNY, N.J. 07032

NAME OF OPERATOR *c/o ROBINSON FRAZIER - ATTORNEY AT LAW

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder and/or the Spill Compensation and Control Act, (N.J.S.A. 58:10-23.11 et seq.) and Regulations (N.J.A.C. 7:1E-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION
N.J.S.A. 58:10-23.11c - THE DISCHARGE OF A HAZARDOU[S] SUBSTANCE IS PROHIBITED.
N.J.S.A. 58:10-23.11e - FAILURE TO NOTIFY THE DEPARTME[NT] OF A HAZARDOUS SUBSTANCE DISCHARGE.

Remedial action to correct these violations must be initiated immediately and be completed by IMMEDIATELY. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of $50,000 per violation.

*NOV MAILED TO COMPANY'S ATTORNEY, LOCATED AT:
FRAZIER & FRAZIER - ATTORNEY AT LAW
SUITE A 1515 RIVERSIDE AVE.
JACKSONVILLE, FL 32204

ATTACHMENT P3

[signature]
Investigator, Division of Hazardous Waste Management
Department of Environmental Protection
STEPHAN SZARDENINGS

N.J. HAZARDOUS WASTE ADVISEMENT PROGRAM 1(609) 292-8341

FRAZIER & FRAZIE
ATTORNEYS AT LAW
SUITE A
1515 RIVERSIDE AVENUE
JACKSONVILLE, FLORIDA 32204

WILLIAM R. FRAZIER
W. ROBINSON FRAZIER

(904) 353-5616

AUG 31

August 28, 1990

VIA U.S. CERTIFIED MAIL
RETURN RECEIPT NO.: P 329 780 161

Mr. Stephan Szardenings, Environmental Specialist
State of New Jersey
Department of Environmental Protection
Division of Hazardous Waste Management
Metro Regional Office
2 Babcock Place
West Orange, New Jersey 07052

Re: Guignon & Green Co. ("the company")

Dear Mr. Szardenings:

This letter is in response to yours of August 14, 1990 and in response to the Notice of Violation sent to me in connection therewith, all of which is in regard to a discharge of oil on real property owned by the company located at 410 Bergen Avenue, Kearney, New Jersey.

The following comments are intended to respond to the allegations contained in your letter (the majority of which have been prepared with the assistance of the company's environmental advisor, Geraghty & Miller, Inc.):

(a) Your letter refers to the oil spill as "involving" the company. Please be aware that the company has not occupied or used the site for business purposes since 1985. The current occupant of the property is Cali Carting Company, which is wholly owned by Mr. John Cali who leases the property from the company.

(b) Your letter states that the company is the likely source for the oil discharge. This statement is unsubstantiated. Although the company owns the site, there is absolutely no historical evidence for a release of that nature by the company or otherwise.

(c) Your letter makes reference to a "large" quantity of oil at the site. Please be aware that as a result of an unexplained fire in the vicinity of the oil spill that took place on or about August 1, 1990, most of the oil is now gone. Representatives of Geraghty & Miller visited the site on August 16, 1990 and

ATTACHMENT P4

observed that no oil had re-accumulated.

(d) Your letter alleges that the discharged oil is similar to materials dealt with by the company. It is my understanding as well as that of Geraghty & Miller that the company handled turpentine, kerosene, creosote, pine oil, and related products. There is no indication that the discharged oil was any of these products.

(e) Your letter states that the spilled oil does not appear to be the result of illegal dumping. This statement is absolutely unsubstantiated. A representative of Geraghty & Miller visited the site during May, 1990, and was informed by Mr. John Cali, President and owner of Cali Carting Company, that the owner of the adjacent property, Reliable Miller Casket Company, had left their gate open for approximately two weeks prior to the spill. This open gate would have provided access to the site, and in addition, there is also access to the site from the property to the south.

(f) Your letter states that the company was the only business in the area that was involved with exstensive handling of petroleum products. In that regard, you should be aware that Mr. Joshua Gradwohl, the NJDEP Environmental Clean-up Responsibility Act ("ECRA") case manager, conducted a study of historical aerial photographs of the site to determine if the company might have been responsible for the oil spill. Mr. Gradwohl studied aerial photographs from the 1940's, 1961 and 1974. He did not observe drums or any other evidence of product or waste handling in the spill area in any of these photographs. On or about May 30, 1990, Mr. Gradwohl informed representatives of Geraghty & Miller that he found no evidence linking the company to the oil spill.

(g) Your letter refers to the laboratory analysis of a sample of the spilled oil, which sample was collected by the Hudson Regional Health Commission. Your letter goes further to state that the analysis indicates that the spilled oil did not appear to be a motor oil. Representatives of Geraghty & Miller contacted Mr. Gary Gretano of the Hudson Regional Health Commission and was informed that this analysis was performed by Analabs of Edison, New Jersey. Representatives of Geraghty & Miller then contacted Analabs and questioned Analab representatives about their fingerprinting technique for oil samples. A Ms. Angela Minutus of Analabs informed representatives of Geraghty & Miller that their normal technique for analyzing (or fingerprinting) oil samples is to compare the oil sample in question with diesel fuel and leaded and unleaded gasoline. The analysis does not rou-

ATTACHMENT P5

tinely include a comparison with motor oil (and apparently did not in this case). Therefore, your conclusion that the spilled oil did not "fingerprint" as motor oil is not based on complete testing.

(h) Representatives of Geraghty & Miller collected two samples of the spilled oil on or about July 16, 1990, for laboratory analysis. The results of this analysis, which was performed by Enseco East of Somerset, New Jersey, indicate that the oil is partially motor oil with another component which could not be identified. This is at complete variance with the allegation and conclusion contained in your notice of violation. In addition, Enseco informed representatives of Geraghty & Miller that it would be impossible to determine the age of an oil unless a potential source material was also analyzed. The term "weathered" used in your letter and Notice of Violation should be therefore clarified and defined. It should also be noted that Enseco, in performing their oil fingerprinting analyses, compares their samples with the following materials: unleaded gasoline, stoddered solvent, paint thinner, naphtha, turpentine, kerosene, jet fuel, diesel fuel, fuel oil no. 2, fuel oil no. 6, motor oil, asphalt, and coal tar distillate. Representatives of Geraghty & Miller did not observe the oil sample to have a pine oil or turpentine odor. Finally, on or about August 2, 1990, the results of the Enseco analysis were sent to you.

(i) Your letter states that the surrounding wetland vegetation indicates a long-term exposure to the oil spill. There is no technical data to support this conclusion. On or about May 29, 1990, representatives of Geraghty & Miller observed the surrounding wetland areas with representatives of the Hudson Regional Health Commission and the NJDEP, as well as Mr. Cali. It was Geraghty & Miller's observation that the staining that your letter refers to in the Notice of Violation is a regional, and not a site-specific, condition that pervades the entire area.

(j) Your letter states that ground water has carried some of the water away from the property in a southerly direction. It is the company's position that the oil is the result of a surface spill. To the best knowledge and belief of the company, there is no evidence that the oil has affected or migrated into the ground water. If the NJDEP has observed this product in ground water monitoring wells downgradient of the site, the company should be informed of the location of these wells and the character and viscosity of the oil in these wells. Please be aware that the drainage in the area of the site is such that surface water drains toward the company's property as well as away from the

property, depending on the amount of precipitation and regional surface water levels. On or about May 29, 1990, during a site visit with representatives of Geraghty & Miller, the NJDEP, the Hudson Regional Health Commission, and Mr. Cali, surface water was observed to be draining from the south toward the company's property.

(k) Your letter requests that the company submit in writing it's plans for remediation for the oil spill. Because your letter and the Notice of Violation are based, in the company's opinion, on numerous erroneous factual bases, I would suggest that you plan to meet with one or more representatives of Geraghty & Miller (who will be representing the company) at the site to discuss the technical basis for the Notice of Violation, to compare and discuss the results of the two separate sampling events, and to discuss further investigation and remediation.

To conclude, it is the company's position that the company had absolutely no financial or other responsibility for the oil spill in question and that, in all likelihood, the oil spill was the result of an illegal surface dumping of motor oil on the company's property.

I look forward to receiving a response to this letter at your early convenience. In addition, if you wish to discuss technical matters in greater detail, I would suggest that you contact John P. Mihalich at Geraghty & Miller in Hackensack, New Jersey (telephone number: (201) 646-1400).

Very truly yours,

W. Robinson Frazier

WRF:lt

cc: Mr. John P. Mihalich
Miss Victoria M. Yoksa

P.O Box QQ
Cross Cty, Fl 32628

ATTACHMENT P7

ATTACHMENT Q

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

TRENTON

DIVISION OF COASTAL RESOURCES

PLEASE ADDRESS REPLY TO:
CN 401
TRENTON, N.J. 08625

NOTICE OF VIOLATION

AUG 20 1990

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. John Cali, President
Cali Carting
410 Bergen Avenue
Kearny, New Jersey 07304

Dear Mr. Cali:

Re: The New Jersey Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., and Rules, N.J.A.C. 7:7A-1
Unauthorized Wetlands Disturbance
Diviison File #0907-90-0007.1
Block 252, Lot 3.6
Town of Kearny, Hudson County

On July 9, 1990, an inspection of the above referenced property was conducted by a representative of this Division. The inspection revealed that the following activities, pursuant to N.J.A.C. 7:7A-2.3 and 6.2, occurred within a freshwater wetland, and associated transition area:

1. The placement of fill material within freshwater wetlands.

Pursuant to N.J.S.A. 13:9B-9(a), "A person proposing to engage in a regulated activity shall apply to the Department for a freshwater wetlands permit". Additionally, pursuant to N.J.S.A. 13:9B-17(b), a person engaging in a prohibited activitiy shall apply to the Department for a transition area waiver.

Since you **may** be in violation of the Act, you are REQUIRED to **cease** and **desist** from conducting, contracting or permitting any further work at the site which may constitute a violation of the Act.

In order to correct this violation, the following courses of action are available to you:

1. Submit to this office, within ten (10) calendar days of receipt of this letter, documentation which would demonstrate that the aforementioned regulated activities are exempt from the Freshwater Wetlands Protection Act, pursuant to N.J.A.C. 7:7A-2.7; OR

ATTACHMENT Q1

2. Submit to this office, within thirty (30) calendar days of receipt of this letter, a mitigation proposal, prepared in accordance with N.J.A.C. 7:7A-14.4, for the removal of the fill and restoration of the site. In addition, the proposal shall include a stabilization narrative for the disturbed area in accordance with procedures outlined in "Standards for Soil Erosion and Sediment Control in New Jersey". <u>This action will require the prior approval of this office</u>; OR,

3. Submit to this office, within thirty (30) calendar days of receipt of this letter the following:

   a. A completed freshwater wetlands permit application along with the required data for review and appropriate fee. The results of this review may be approval, conditional approval, or denial with possible restoration. Although you have been afforded the opportunity to choose this option, please be advised that the regulated activities conducted at the above referenced property may not qualify for a permit under the provisions of N.J.A.C. 7:7A-9.1; AND

   b. A Transition area waiver application prepared in accordance with the procedures set forth in N.J.A.C. 7:7A-7.

You must submit a written reply, within ten (10) calendar days of receipt of this letter specifying the manner in which compliance with the Freshwater Wetlands Protection Act will occur.

Please be advised that violations of N.J.S.A.13:9B-1 <u>et seq.</u> may result in the assessment of penalties of up to $10,000 for each violation. Each day during which each violation continues constitutes an additional, separate and distinct offense.

Furthermore, compliance with the requirements contained within this directive letter does not relieve you of your liability resulting from conducting regulated activities within a freshwater wetland without a permit, nor does it relieve you from any further liabilities for violations of any other State, Federal or local statutes in connection with your project.

Failure to fully comply with the requirements contained in this letter will result in further enforcement action including the imposition of additional monetary penalties accruing on a daily basis until the violations are corrected.

ATTACHMENT Q2

Should you have any further questions regarding this matter, please contact Peter Keledy at (609) 292-1240.

Very truly yours,

for Michael P. Maretta, Supervisor
Northern Regions
Bureau of Enforcement

c: Kathleen M. Cann, Manager, Bureau of Enforcement
William Neyenhouse, Section Chief, Hudson Region
Deirdre Scudellari, Esq., Division of Regulatory Affairs
Josh Gredwall, Bureau of Industrial Site Evaluation (DHWM)
Department of Army, Corps of Engineers- New York District
Mayor and Council, Town of Kearny
Town Construction Official
H.E.P. Soil Conservation District
Guignon & Green, P.O. Box QQ, Cross City, FLA 32628
John Mihalik, Geraghty & Miller, 290 Vincent Ave., Hackensack, NJ 07601
Robinson Frazier, Esq., Frazier & Frazier, Suite A 1515 Riverside Ave., Jacksonville, FLA 32204

ATTACHMENT Q3

ATTACHMENT R

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

OCT 09 1992

MEMORANDUM

OCT 07 1992

TO: Robert VanFossen, Chief
Bureau of Field Operations

FROM: Linda Grayson, Chief
Bureau of State Case Management

SUBJECT: CASE TRANSFER: Interstate Metals Separating Corp.
275 Dukes Street, Kearny/ Hudson County
ACO Executed 31 JAN 1990

The Bureau of State Case Management is transfering the above referenced case to the appropriate lead group within the Bureau of Field Operations. The remedial level for this case is C1.

Background: Interstate Metals Separating Corp. (IMS or Interstate) owned and operated a metals reclaiming and recovery facility on an 8.41 acre parcel located at 275 Dukes Street in Kearny, from the late 1940's until 1991. The site is located in the Hackensack Meadowlands between the Passaic River and the Hackensack River and is bordered by meadowland areas to the east and northeast, and by industrial areas of Kearny on the remaining sides. There is a residential area within one-quarter (1/4) mile of the site.

Among the processes conducted at the site by IMS were the processing of composition slags; brass, copper, mercury, and aluminum reclamation; nickel alloy processing, and solder reclamation. A more detailed explanation of the processes conducted at Interstate can be found in the FINDINGS section of the ACO (attached) and in the case files.

Remedial Investigations conducted at this site identified high concentrations of priority pollutant metals in the soils as the most significant contamination on site. It should be noted that the site soils are largely regraded industrial fill material. Gross metals contamination in soils has been demonstrated to depths of up to twelve (12) feet below ground surface. Organic contaminants, primarily heavy petroleum hydrocarbons and base neutral extractable compounds were also identified, but in concentrations that did not warrant further action.

ATTACHMENT R

The groundwater quality beneath the site had been slightly impacted by some of the metals and organic contaminants identified in the soil, but these effects were highly localized and are not believed to be migrating off-site via groundwater.

High volume air sampling indicated that metallic contaminants were present in air-borne dusts which originated on-site. Documentation exists (summons fron Kearny Health Department) from as early as 1972 which refers to this condition. This condition was considered a threat to human health and the environment, and also a significant vehicle for off-site transport of contaminants.

Surface water and sediment samples collected from an adjacent and off-site drainage ditch system demonstrated that surface drainage also represented a significant route of off-site contaminant transport. Priority pollutant metals (most notably mercury, lead, zinc, and copper) which contaminate the on-site soils have also been identified in off-site sediments in the drainage ditch system. These metals were shown to be present at levels which exceed the Biological Effects Criteria; Effects Range-Moderate (NOAA 1990) by two to three orders of magnatude in off-site sediments. Surface water samples collected off-site are elevated significantly above the acute and chronic criteria in the Federal Ambient Water Quality Criteria for Zn, Cu, and Pb.

Remedial Activities: Final remediation of the site included the installation of a one-foot thick cap of clean soil and revegetation using Hydroseed. Cap installation was completed on September 03, 1991, and a deed restriction has been imposed. All buildings and improvements have been demolished and removed from this Site.

On April 16, 1992 the Bureau of Groundwater Pollution Abatement advised BSCM that all groundwater issues at the site had been adequately addressed, and that all monitoring wells were to be sealed and abandoned in accordance with Departmental regulations. The sealing and abandonment of all on-site wells was completed on May 05, 1992, and on May 30, 1992 BGWPA issued a Draft Termination Notice of Interstate's NJPDES DGW Permit #NJ0072117. Several outstanding issues, however, are currently being addressed by BSCM (in conjunction with BGWPA and BAP) with regard to the well sealing.

Off-site Contamination: Although all on-site contamination has been satisfactorily addressed, the adjacent and off-site drainage ditch system remains grossly contaminated with metals. This drainage ditch system is also visibly contaminated with petroleum hydrocarbons which emanate from a nearby property, non-point source contaminants discharged by the local combined storm/sanitary sewer, surface runoff from various nearby industrial facilities, and possibly by metal slags and other poor-quality fill materials which were used extensively as fill during the industrialization of the Hackensack Meadowlands.

The next logical step in addressing the impact of contamination on the drainage ditch system and wetlands would include further delineation of PP Metals and the development of ecology-based cleanup standards (pursuant to Subchapter 5 of the Proposed Cleanup Standards for Contaminated Sites). A provision of Subchapter 5 is that the Department will use a site-specific baseline ecological evaluation to determine if an ecological risk assessment is necessary. Considering the limited remaining financial resources available to Interstate, and a mutual

agreement that a baseline ecological risk assessment would probably be determined necessary, Interstate was given the option to conduct a Feasibility Study of remedial alternatives for the off-site contamination. On June 04, 1992 the Department issued a letter to IMS directing a detailed and comprehensive proposal to address off-site contamination which has emanated from this facility.

On July 31, 1992 IMS submitted an "Investigation Report and Feasibility Study" which proposed No Further Action. This submittal was reviewed and found unacceptable by the Bureau of Environmental Evaluation and Risk Assessments: Environmental Toxicology and Risk Assessment group (Memo attached).

Multiple-Party Issue: The area refered to in this text as the drainage ditch system encompasses a drainage ditch adjacent to the IMS property which feeds into a culvert which, in turn flows beneath an elevated rail road trestle and into a wetland marsh system known as Dead Horse Creek. Dead Horse Creek joins Frank's Creek approximately 1,000 feet downgradient of the rail road trestle.

Following is a partial listing of sources which are believed to be on-going sources of contamination to Dead Horse Creek.

1. Much of the land on the east side of the railroad embankment was previously owned by the John Hewitt Foundry Company. Historical aerial photographs of this area clearly illustrate that extensive filling of this area occurred in the 1940's; fill materials typical of foundry waste include slag, refractory brick, casting sand, and metal waste. It should be noted that these types of materials are typical of the fill found throughout this area (see photos #30, 31, 35, and 37 in the Investigation Report and Feasibility Study).

2. An outfall pipe from the city's combined storm/sanitary sewer syster discharges directly to the drainage culvert on the west side of the railroad embankment. Contamination associated with the combined sewer system include human waste, household waste, refuse, road run-off, and non-point source contaminants.

3. A petroleum seep is evident at the northern extension of the drainage culvert on the west side of the railroad embankment. This pertoleum seep is believed to originate from the Guignon and Green property (ECRA case #86034), a case which is no longer in ECRA. This seep has been refered to Metro Bureau of Regional Enforcement, however this situation persists.

4. On the east side of the railroad embankment, the Port-O-San facility is involved in the manufacture, repair, and rental/maintenance of portable toilets. Photographic evidence submitted by IMS documents several areas of surface discharge from this facility in which soil staining and stressed vegetation are present. Reportedly these areas are characterized by strong odors of chemicals and human waste.

5. The generally poor quality of industrial fill on the property to the north of IMS is documented in photos #18 through #20 in the Investigation Report and Feasibility Study.

6. Sporadic illegal dumping which has occurred in this area, including drums in Dead Horse Creek.

ATTACHMENT R3

7. The Responsible Party alleges that the scrapyard of the Bergen Metal Company (formerly S. Malz and Son Inc. Scrap Metal), located at the foot of Bergen Avenue, contributes contamination via surface runoff.

Recommendations: Off-site sampling in the drainage ditch system on both the east and west sides of the railroad embankment has demonstrated that similar concentrations of the marker metals which contaminate the IMS property also exist throughout the ditch system. Undoubtedly IMS has been a major contributor of metals contamination to this system, and should address remediation. It should be noted, however, that the net positive effect of remediating the metals in this system would unquestionably be minimized if the aforementioned sources of contamination are not addressed concurrently. Based on the rationale that Dead Horse Creek continues to be impacted by a variety of contaminant sources, it is the opinion of this Bureau that the only effective approach to a remediation in this area would involve a multiple-RP cleanup. The considerable expense associated with remediating the metals portion of this contamination would undoubtedly be more effective if handled in a regional contamination scenario. Regardless of how this matter is addressed, the remedial level of the off-site contamination is still C-1.

jdb

c: Joel D. Bernstein, Case Manager; BSCM
John Sacco, Tech, Coordinator; BEERA
Jeff Spera, Geologist; BGWPA

ATTACHMENT R4

ATTACHMENT S

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-7141
Fax # (609) 633-1454

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
Robinson Frazier
Frazier & Frazier, Attorney At Law
Suite A
1515 Riverside Avenue
Jacksonville, FL 32204

JUL 10 1990

Dear Mr. Frazier:

Re: Guignon & Green Co
410 Bergen Avenue, Kearny Town, Hudson County
ECRA Case #86034

On May 29, 1990, Department officials inspected the above referenced facility to respond to a report that an oil spill originating from the Guignon & Green property had covered most of the wet lands that abut the property. After a thorough review of the aerial photographs for the site, and the fact that the oil appeared after the current tenant illegally backfilled the wetlands with approximately 140 yards of wood chips, the Department has determined that Guignon & Green shall begin an immediate remedial action to remove the oil laden wood chips and determine the source of the oily substance. Until Guignon & Green receives a final compliance letter or a Negative Declaration from the Department for ECRA Case #86034, they are responsible for their tenants actions.

Guignon & Green has been issued an Emergency General Permit #4 for the containment and cleanup of oil and hazardous substances in a wetlands area. The general conditions of the Emergency Permit require the wet lands to be restored to the prior conditions. A formal application for a Fresh Water Wetlands Permit Pursuant to N.J.S.A. 13:9B has been sent by the Division of Coastal Resources to Mr. John P. Mihalich of Geraghty & Miller, Inc. and shall be completed and returned to the Department within 15 days upon receipt of the application. Under the auspice of the emergency permit, Guignon & Green shall begin the immediate remediation of the oil contamination emanating from the facility by removing approximately 140 yards of oil contaminated wood chips as well as any heavily contaminated sediments immediately beneath the wood chips which may have also been impacted by the oil. Guignon & Green shall collect samples of the oily substance to fingerprint its content. Proper disposal documentation shall be provided to the Department.

Guignon & Green shall contact the Division of Coastal Resources at (609) 633-6755, attention Terry Fowler, and shall begin the remediation of the oil contaminated wood chips as well as determine the source of the oil within 15 days upon receipt of this letter. Failure to meet the deadline will result in a referral to the Bureau of ECRA Applicability and Compliance (BEAC) for the assessment of appropriate penalties.

All questions about this letter shall be directed to the Case Manager, Joshua Gradwohl at (609) 633-7141.

Sincerely,

Kenneth T. Hart, Chief
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

c: John Mihalich, Geraghty & Miller, Inc.
Gary Garetano, Hudson Regional Health Commission
Terry Fowler, Coastal Resources

ATTACHMENT T

09-07-112

Let's protect our earth

MAR - 8

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-7141
Fax # (609) 633-1454

TO: Yacoub Yacoub, Chief
Hazardous Waste Enforcement Element
Bureau of Metro Enforcement

THROUGH: Dawn Pompeo, Chief DMP 2/27/91
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

FROM: Joshua Gradwohl, Case Manager JPG
Bureau of Environmental Evaluation
and Cleanup Responsibility Assessment

SUBJECT: Oil Spill area Guignon & Green property
410 Bergen Avenue, Kearny Town, Hudson County
ECRA Case #86034

In July of 1990 a referral was made to the Metro Bureau of Hazardous Waste Enforcement to report a release of hazardous substances into a wetlands area located behind the above referenced property. The Metro Office issued a Notice of Violation to Guignon & Green on August 14, 1990 for the release of hazardous substances. Guignon & Green has taken the position that the spill is not on their property, is not a result of their operations and they will not address the issue.

Guignon & Green has had the property lines surveyed by a certified surveyor and the spill area is 18-20 feet off the Guignon & Green property at its closest point. No discharge pipes have been discovered during the course of the ECRA investigation and previous to the spill, the area was not identified as an area of concern by this Bureau.

Because Guignon & Green has not been on-site for over 4 years and the area in question is off the subject property and it was never identified as a potential area of concern ECRA does not have the authority to address the issue any further. The spill cleanup will have to be pursued and overseen by the Metro Office of Hazardous Waste Enforcement.

We thank you for your assistance and we look forward to continued support in the future.

T'

ATTACHMENT U

Form ADM-012

09-07-112

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO FILE through Dave Ostar. DATE 8/3/90

FROM STEPHAN SZARDENINGS

SUBJECT GUGLIONI & GREEN CO. - FIRE ON SITE.

On August 1, 1990, a fire occured at the Guglioni & Green Co. spill case site. The fire had started at @ 8:30 - 8:45 pm. The entire area that had been involved with the petroleum product (actual product & sheen) has been burned down, including the railroad embankment. Most of petroleum product seen during earlier visits, had burned off, but some pockets were still found. They were located at the southern end of the spill area, and also at the northern end where the majority of product was found before the fire. There was also a few spots located along the old railroad tracks.

With all of the plant growth burned away, the soil contamination is all the more evident. There is also the sign of a partially buried drum that was not noticed earlier due to vegetation growth. Its contents are unknown.

Kearny F.D. was still on site hosing down the hot spots still burning. I spoke with the fire inspector (*) for this fire. He stated the fire was still under investigation but that it had started at the northern end of the property and had burned its way south. Mr. Cali, of Cali Carting, had stated he was on site during the fire and had used the track hoe to put buckets of water on some of vegetation and also to clear a fire break so that no further burning might occur. Mr. Cali did not report the fire.

Shortly before my departure, a hydrogeologist from Geraghty & Miller, Inc. (Mr. John Messinger) had arrived on scene to assess the site on the behalf Guglioni & Green Co. He had no prior knowledge about the fire. I planed the situation to him - before and after the fire.

(*) Mr. Joseph DeVice - Kearny F.D.

U'

KEARNY FIRE DEPARTMENT

FIRE RECORD

No. 401 (Company Run)

Date August 1, 1990 — Time of Alarm 8 41 PM — Return Call 12 09 AM

Station Still

Address Foot of Devon Terr

Building — Stories — Brick, Frame, etc.

Other than buildings Brush/Rubbish Fire

Business

Owner

Address

Tenants — Name — Floor

Name — Floor

Name — Floor

Chief in Command D C Cody

Weather Mild

Off Shift Reporting, Killed, Injured, Damaged Equipment

Booster — Streams Used

Extinguishers — Number used — Type

Hose 4 L 2½ — 12 L — 1½ — Number of Lengths — Size

Ladders — Number of Feet Used

Masks — Number used — Type

Tools Used 3 brooms 1 Pike pole

Company operation While responding to West Hudson Auto Harrison Av, saw heavy black smoke near Foot of Devon Terr, Notified operator + responded Foot Devon Terr, Found large area of brush, Trees, rubish involved in Fire used 2-1½" hand lines one 4L, one 8L to attack fire, Eng 2 laid a feeder and used 5L 2½" hand line, Knocked Fire down and did mop-up work

Fire origin, spread and cause Area appx 4 acres contained brush, rubish and oily mud involved in Fire, spread South due to wind stopped at RR Tracks, Cause of fire undetermined at this time

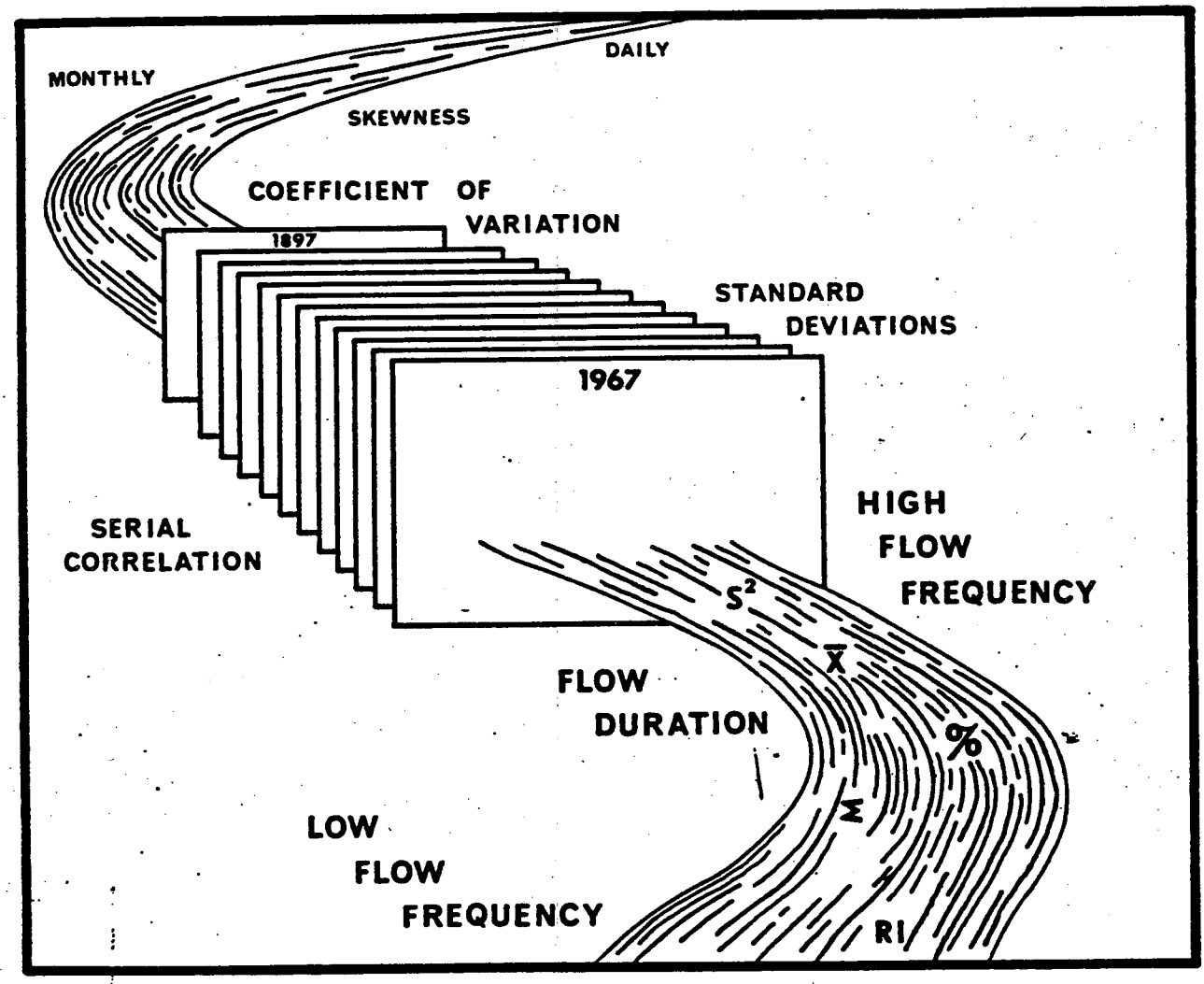
Report made by Beesley (Name of Captain)

Engine **Company No.** 1

ATTACHMENT V

STATISTICAL SUMMARIES OF NEW JERSEY STREAMFLOW RECORDS

WATER RESOURCES CIRCULAR 23



STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES

Prepared in cooperation with
United States Department of the Interior
Geological Survey

1970

1-3770.00 HACKENSACK RIVER AT RIVERVALE, N. J.

Location.--Lat 40°59'55", long 73°59'27", at Westwood Avenue, Rivervale.

Drainage area.--58.0 sq mi.

Remarks.--Regulation since February 1956 reduces flood peaks and augments low flow. Diversion significant at low flow only.

DURATION TABLE OF DAILY DISCHARGE

CLASS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

YEAR	NUMBER OF DAYS IN CLASS	CFS
1943	5 23 6 22 7 27 17 31 29 34 31 18 19 14 14 10 14 10 7 4 1 6 1	
1944	1 4 15 16 17 14 17 17 10 8 19 37 41 38 33 22 16 16 15 5 2 2 7	
1945	2 15 12 21 14 9 3 11 26 18 24 21 24 18 16 20 28 21 13 14 8 7 8 8 2 3	
	1 17 10 5 6 9 23 29 40 26 25 24 26 32 23 26 11 8 4 8 2 1 7 1 4 1	
1946		
1947	2 5 11 9 9 38 28 47 45 29 26 16 18 23 24 8 10 6 3 7 7	
1948	5 11 17 25 24 35 35 26 24 27 37 25 16 18 17 12 4 1 2 2	
1949	16 31 4 6 6 8 12 29 33 37 19 19 20 14 30 25 22 9 7 9 3 7	
1950	4 4 20 44 42 19 22 20 13 18 6 7 19 15 15 26 34 12 11 5 1 1 1 3 1 2	
	14 6 21 33 17 22 33 27 36 22 29 23 27 21 13 4 4 8 2 3	
1951		
1952	4 12 25 14 25 12 13 29 13 24 19 19 18 30 40 24 13 11 10 3 1 3 3 1 1 2	
1953	3 9 9 8 25 20 13 16 19 36 35 50 39 23 16 15 5 9 7 4 3 1 2	
1954	4 15 16 4 6 14 7 24 28 13 14 14 3 11 10 12 23 24 32 25 14 9 12 7 9 4 5 3 3	
1955	5 12 12 10 13 17 16 14 17 24 19 26 23 17 23 26 25 14 18 10 4 3 2 4 4 2	
	1 5 2 4 6 4 1 14 30 32 18 32 28 17 24 31 25 25 17 20 10 7 3 4 3 2	
1956		
1957	22 24 19 13 13 30 24 24 29 25 22 22 18 20 17 10 9 9 4 2 1	
1958	11 8 9 25 15 15 7 22 18 40 16 30 28 28 28 20 17 13 6 1 2 1 1 1 2 1	
1959	1 6 19 34 17 27 16 17 22 47 26 18 19 19 8 13 15 7 12 12 4 4 1 1	
1960	13 5 14 34 42 60 42 25 25 22 20 12 10 16 8 4 2 2 1 1	
	4 20 21 36 21 17 19 46 51 30 19 20 13 11 16 5 6 8 2	
1961		
1962	3 8 16 21 25 29 53 43 22 29 28 25 13 14 12 10 5 4 2 3 1	
1963	3 19 33 41 47 38 21 31 23 27 22 15 20 6 3 3 6 2 2 3	
1964	5 19 20 61 55 34 36 35 40 15 9 12 4 10 2 3 2 2	
1965	13 8 8 16 38 30 36 42 63 38 25 11 13 7 11 2 5	
	1 2 6 10 12 18 49 49 73 47 35 38 9 4 4 2 1 2 1 1 1	
1966		
1967	5 6 5 19 21 67 35 29 22 22 24 51 38 6 4 4 2 2 2 1	
	3 14 8 5 7 30 25 30 13 10 32 25 18 14 8 25 20 25 10 13 7 7 6 2	

CLASS	CFS	TOTAL	ACCUM	PERCT	CLASS	CFS	TOTAL	ACCUM	PERCT	CLASS	CFS	TOTAL	ACCUM	PERCT	CLASS	CFS	TOTAL	ACCUM	PERCT
0	0.00	0	9496	100.0	9	16.00	328	8895	93.7	18	78.0	641	3652	38.5	27	380	94	220	2.3
1	3.80	0	9496	100.0	10	19.00	321	8566	90.2	19	93.0	584	3011	31.7	28	460	55	126	1.3
2	4.50	0	9496	100.0	11	22.00	554	8245	86.8	20	110.0	517	2427	25.6	29	540	33	71	.7
3	5.40	9	9496	100.0	12	27.00	584	7691	81.0	21	130.0	553	1910	20.1	30	640	17	38	.4
4	6.50	33	9487	99.9	13	32.00	696	7137	75.2	22	160.0	366	1357	14.3	31	780	5	21	.2
5	7.70	78	9454	99.6	14	38.00	742	6441	67.8	23	190.0	326	991	10.4	32	930	4	16	.1
6	9.70	74	9376	98.7	15	46.00	611	5699	60.0	24	230.0	198	665	7.0	33	1100	4	7	.0
7	11.00	143	9302	98.0	16	54.00	716	5088	53.6	25	270.0	154	467	4.9	34	1300	3	3	.0
8	13.00	264	9159	96.5	17	65.00	720	4372	46.0	26	320.0	93	313	3.3					

LOWEST MEAN DISCHARGE, IN CFS, AND RANKING, FOR THE FOLLOWING NUMBER OF CONSECUTIVE DAYS IN YEAR BEGINNING APRIL 1

HACKENSACK RIVER AT RIVERVALE, N.J.

YEAR	1	3	7	14	30	60	90	120	183	ANNUAL
1942	12.5 12	14.1 15	19.0 17	24.3 21	28.3 19	32.0 15	39.9 17	50.5 22	64.0 21	176.0 29
1943	11.5 11	12.0 11	13.0 11	16.3 13	17.2 13	20.1 11	25.8 10	34.8 8	48.0 13	87.6 11
1944	7.4 5	7.7 5	8.1 3	10.0 7	10.7 2	11.4 2	16.0 3	24.2 4	29.0 3	90.1 13
1945	35.0 25	36.0 25	39.9 25	44.6 25	51.9 25	65.4 25	73.0 25	90.3 25	108.0 25	140.0 24
1946	17.6 14	18.3 19	21.0 22	24.0 20	34.8 22	38.2 20	43.1 19	49.8 18	57.4 18	93.2 16
1947	12.6 13	13.0 12	13.6 13	13.9 11	14.4 8	18.4 9	24.0 9	33.3 10	51.1 15	182.0 18
1948	11.0 9	11.0 9	11.3 8	11.5 8	13.3 7	15.7 5	20.2 5	24.0 3	39.7 8	105.0 19
1949	7.8 6	8.2 7	9.2 7	9.8 4	12.2 6	13.2 3	13.7 2	14.8 1	15.7 1	49.6 7
1950	11.0 10	11.3 12	12.3 10	13.1 9	14.9 9	17.4 8	22.7 7	26.9 7	44.8 8	94.7 15
1951	16.8 17	17.0 17	17.7 16	19.2 16	21.9 15	40.0 21	51.6 23	90.4 21	90.3 10	128.0 23
1952	20.0 23	20.0 23	20.4 20	20.7 17	22.3 16	31.5 14	48.2 22	54.6 23	69.2 22	147.0 25
1953	5.8 1	6.1 1	6.3 1	7.0 1	7.8 1	7.8 1	10.8 1	14.3 2	23.6 2	72.0 7
1954	6.5 2	6.8 2	8.4 4	9.1 2	11.1 4	15.1 4	18.4 4	37.8 13	61.5 20	99.8 17
1955	7.3 3	7.6 4	8.6 5	9.9 5	16.3 10	35.3 19	39.1 16	50.3 20	77.9 24	112.0 22
1956	13.0 14	13.7 14	14.4 14	16.3 14	16.8 11	19.6 10	29.6 6	24.6 5	31.9 4	68.4 5
1957	8.0 7	8.0 4	8.7 6	9.9 6	10.9 3	16.3 6	28.3 12	36.1 12	36.4 7	94.7 14
1958	13.0 15	13.0 13	13.4 12	13.9 10	22.8 17	32.4 16	36.9 15	47.1 15	40.8 14	88.2 12
1959	18.0 19	18.7 20	19.4 18	27.2 19	30.4 21	34.7 17	35.5 13	39.1 14	44.7 11	89.6 9
1960	19.0 21	20.0 21	21.4 23	27.1 23	34.9 23	41.8 23	53.2 24	58.9 24	77.1 23	107.0 21
1961	21.0 24	21.0 24	22.1 24	27.9 24	34.9 24	46.1 24	47.1 21	49.9 17	52.0 17	65.0 10
1962	18.0 20	18.3 18	20.0 19	21.4 18	29.3 20	37.4 19	41.1 18	48.5 16	47.0 12	73.8 8
1963	15.0 16	15.3 15	16.7 15	17.5 15	20.0 14	41.1 22	43.9 20	50.0 19	51.8 16	59.2 4
1964	20.0 22	20.0 22	20.7 21	25.0 22	26.4 18	30.0 13	36.7 14	35.9 11	45.2 10	54.9 6
1965	9.0 8	10.0 9	12.0 9	15.8 12	17.2 12	23.9 12	27.6 11	30.8 9	34.6 6	40.3 1
1966	7.3 4	7.3 3	7.6 2	9.4 3	12.2 5	16.9 7	22.9 8	27.5 8	32.8 9	55.6 3

V2

1-3895.00 PASSAIC RIVER AT LITTLE FALLS, N. J.

(published as "at Paterson" prior to 1956)

Location.--Lat 40°53'05", long 74°13'35", 0.6 mile downstream from Beatties Dam.

Drainage area.--762 sq mi.

Remarks.--Regulation reduces flood peaks and augments low flow. Diversion very significant at all flows.

DURATION TABLE OF DAILY DISCHARGE

CLASS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
YEAR	NUMBER OF DAYS IN CLASS																																			CFS-DAYS
1898																																				
1899																	2	13	44	33	29	29	43	61	33	33	18	21	3	3						
1900	1										2						8	22	38	54	26	23	14	20	31	32	30	35	17	14	1					558701.0
														1	1	8	8	38	57	42	34	31	24	25	23	17	27	13	6	4	4					570249.0
1901																																				383423.0
1902												1		1	2	10	29	41	63	34	24	10	20	15	17	25	28	20	11	9	5					
1903														2	5	1	8	20	52	59	31	32	27	35	24	15	14	14	16	3	3	2	2			456969.0
1904	3													1		1	1		6	19	41	17	14	16	24	36	85	60	21	17	7	1				609001.0
1905	2	1					1			1	1		3	2	1		5	16	18	40	31	46	40	32	29	28	28	16	8	3	1	2	1	2	1	473766.0
1906										1			1		2	4	18	14	32	30	47	49	42	45	71	16	15	4	6	9	5					543440.0
1907																2	7	23	18	39	37	24	30	45	32	49	35	13	9	7						390390.0
1908															1	7	11	34	36	38	49	27	30	32	34	30	21	4	3	5	2					
1909																3	4	19	30	22	16	17	13	18	20	42	63	44	28	21	4					444854.0
1910													1		2	4	23	67	43	26	34	24	27	19	26	15	18	12	21	3						357705.0
													1		5	7	50	63	35	23	11	24	23	21	30	19	16	13	14	6	4					808854.0
1911																																				375517.0
1912												1		1	3	5	11	39	48	44	28	20	25	33	36	27	20	19	5						393900.0
1913																	22	38	19	40	23	29	25	31	33	40	29	20	7	6	2	2				
1914									1	1			2			6	27	39	28	18	9	13	18	24	31	39	41	26	21	17	4					259662.0
1915													1	2	2	8	17	18	24	19	21	22	43	41	23	21	31	42	20	4	4	2				479560.0
														1	5	12	20	13	21	37	32	25	27	33	33	26	15	22	16	19	7	1				466794.0
1916																																				436431.0
1917																5	10	18	26	30	21	33	28	34	46	49	35	17	10	4						514075.0
1918												1		11	12	18	28	29	20	16	20	25	38	32	28	33	23	18	11	2					
1919										1			1	4	13	20	25	35	42	36	15	19	26	34	23	15	21	18	6	8	3					482360.0
1920														4	21	23	12	13	10	15	15	28	15	21	34	54	50	27	16	2	3	2				298453.0
																		2	5	9	40	46	36	49	49	60	31	11	11	9	3	5				296378.0
1921																																				426800.0
1922														3	13	5	13	17	12	12	21	19	25	22	34	34	54	48	19	9	3					615630.0
1923												1	2	14	12	6	7	24	14	28	26	18	28	34	29	33	36	35	11	4	3					
1924										2	10	10	9	17	21	13	13	42	32	17	17	19	24	22	24	16	27	14	6	5	5					494610.0
1925										3		4	2	11	9	14	9	14	13	14	17	19	31	24	17	48	57	28	19	5	5	1	2			385201.0
														1	6	3	5	18	47	59	39	26	27	30	34	13	14	17	11	12	3					272200.0
1926																																				474136.0
1927													2	5	14	11	8	6	24	22	23	38	33	30	26	32	39	30	14	8						326491.0
1928														3	1	2	6	7	13	11	27	27	24	43	53	84	43	15	2	3	1					
1929																	1			1	5	18	31	56	62	63	57	29	20	3						386499.0
1930													2	16	18	5	15	18	21	47	39	40	12	16	8	23	30	30	20	5						528254.0
													4	12	12	8	13	17	13	34	29	33	29	50	28	47	24	9	3							690094.0
1931																																				334969.0
1932													6	21	5	11	12	22	21	37	21	19	23	36	30	35	31	33	2							263791.0
1933			2		3	16	2	4	1	10	9	17	20	22	17	20	29	29	21	19	23	28	31	14	12	10	4	3							300742.0
1934									1	1		1	2	7	3	12	20	13	9	12	15	33	48	44	43	48	21	19	11	2					193915.0
1935													4	2	11	15	18	20	46	42	29	24	31	41	34	25	16	7								670246.0
													4	5	9	20	25	30	8	9	42	60	39	40	41	28	4									376432.0
1936																																				343764.0
1937													1		6	22	36	30	26	18	18	24	34	43	27	20	22	14	7	6	3	6	3			511799.0
1938															1	4	17	38	39	34	26	22	23	59	44	36	15	7								437494.0
1939																9	24	15	27	23	45	52	49	59	24	17	12	7	2							549522.0
1940														1	1	13	36	21	30	12	19	32	23	36	15	31	41	36	18							501186.0
															1	27	44	58	27	23	28	26	23	20	39	14	22	19								408229.0
1941																																				
1942														1	2	10	14	16	19	33	25	26	35	41	50	20	30	32	11							342599.0
1943															1	9	13	21	22	25	44	37	35	20	26	32	31	21	20	4	4					376794.0
1944														3	1	9	14	22	18	17	7	11	21	30	55	48	49	32	19	5	4					473116.0
1945											4	1	3	6	13	12	23	16	31	22	29	23	34	20	13	29	36	31	18	4					346983.0
														1	4	11	13	7	8	11	27	30	22	28	30	37	50	47	18	13	4	2	2			552789.0
1946																																				
1947																	1	8	12	11	33	46	46	43	29	31	35	31	27	12						
1948																	2	18	45	38	30	49	30	32	36	40	23	16	6							469059.0
1949														5	5	4	6	14	25	10	20	22	41	39	19	39	34	52	18	13						391467.0
1950												1	1	6	8	5	18	21	40	39	32	14	19	12	13	23	39	41	20	2	3	6	2			473329.0
														1	1	12	18	44	37	29	29	35	34	32	28	37	18	3	7							333496.0
1951																																				212319.0
1952																		11	46	30	28	21	22	14	25	38	53	46	16	6	4	3	2			
1953																			9	10	22	19	26	15	39	47	54	47	42	22	8	4	2			514845.0
1954													11		9	10	15	10	14	19	35	29	9	9	7	16	31	54	34	20	26	7				741853.0
1955													3	2	14	15	13	27	29	31	20	38	30	26	27	32	29	19	10							532733.0
													2	3	3	4	9	4	7	29	50	31	30	23	26	36	42	31	22	5	3	3	2			408547.0
1956																																				351563.0
1957																			7	23	42	35	43	29	26	19	36	57	25	15	3	3	1	2		
1958													1	6	12	16	15	14	21	40	20	17	16	42	37	31	33	23	12	3	6					441214.0
1959														2	2	13	15	41	32	34	29	24	7	24	17	15	24	27	35	22	2					270268.0
1960																	1	14	45	34	64	41	32	33	32	38	23	6	2							457650.0
																	2	2	8	23	15	27	40	51	53	42	38	42	15	5	3					245338.0
1961																																				476189.0
1962																			12	19	31	27	55	62	40	22	17	16	27	25	5	7				
1963																4	9	20	49	48	53	49	32	18	13	16	8	20	19	3	4					412029.0
1964															5	17	8	22	24	17	62	61	43	29	19	13	10	14	21							219404.0
1965													16	6	10	11	30	19	15	21	42	22	25	21	35	21	17	38	12	2						199088.0
												1	2	10	15	33	58	26	33	35	26	34	54	17	5	7	2	2	3	1	1				227433.0
1966																																				98219.0
1967														2	13	15	18	42	68	41	31	28	25	26	16	12	8	9	9	2						143894.0
																			5	17	29	33	47	43	51	43	30	29	19	10	9					375105.0

V3

ATTACHMENT W

```
GEMS> 3

Enter the next ring distance
GEMS> 4

Enter the next ring distance
GEMS> NEXT

Enter program execution mode: B (batch) or I (interactive)
GEMS> I


LATITUDE   40:45:13   LONGITUDE   74: 8:24      1980 POPULATION

                                                                    SECTOR
KM  0.00-.250 .250-.500 .500-1.00 1.00-2.00 2.00-3.00 3.00-4.00     TOTALS
--- --------- --------- --------- --------- --------- --------- ---------
S 1         0      1866      3942     31265     51122     79761    167956
    --------- --------- --------- --------- --------- --------- ---------
RING        0      1866      3942     31265     51122     79761    167956
TOTALS

press RETURN to continue
```

ATTACHMENT X

INDUSTRIAL CORROSION MANAGEMENT INC.
1152 Route 10
Randolph, NJ 07869
Phone # (201) 584-0330

SAMPLE DATA SUMMARY PACKAGE

GG100594

CONTRACT X-26174/A60084
PROFESSIONAL LABORATORY ANALYTICAL
SERVICES FOR NJDEPE

ATTACHMENT X

ANALYTICAL DATA PACKAGE FOR THE ANALYTICAL
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION & ENERGY
TRENTON, NEW JERSEY 08625

DIVISION: DPFSR BUREAU: OSA

CASE NAME: GG100594 CASE #:

Note: This is a two sided form. Data Qualifiers on reverse side.

FIELD SAMPLE NUMBERS	LABORATORY SAMPLE NUMBERS	SAMPLE LOCATION	DATE and TIME OF COLLECTION
678	197734	S-1	10/5/94; 1010-1015
679	197735	S-2	10/5/94; 1005-1010
680	197736	S-3	10/5/94; 1035-1037
681	197737	S-4	10/5/94; 1030-1035
682	197738	S-5	10/5/94; 1105-1108
683	197739	S-6	10/5/94; 1120-1125
684	197740	S-7	10/5/94; 1150-1155
685	197741	S-8	10/5/94; 1220-1230
686	197742	S-9	10/5/94; 1232-1240
687	197743	S-10	10/5/94; 1235-1240
689	197744	S-12	10/5/94; 1220-1230

LABORATORY NAME: Icm Laboratories LOCATION: 1152 Rt 10, Randolph NJ

NJDEPE CERTIFICATION No: A60084 (IF APPLICABLE) DATE SUBMITTED: 11/14/94

Paula Kolano-Blaze
LABORATORY QA OFFICER (PRINT)

Paula Kolano Blaze
LABORATORY QA OFFICER: (SIGNATURE)

Richard Levine
LABORATORY MANAGER: (PRINT)

LABORATORY MANAGER: (SIGNATURE)

NJDEPE FORM A-1A (9/91)

ATTACHMENT X 2

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
RUN OFF ROUTE
678
S-1

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197734

Level (low/med): LOW Date Received: 10/06/94

% Solids: 79.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9740			P
7440-36-0	Antimony	10.3	U		P
7440-38-2	Arsenic	6.3			F
7440-39-3	Barium	119			P
7440-41-7	Beryllium	0.49	B		P
7440-43-9	Cadmium	1.2	B		P
7440-70-2	Calcium	59800			P
7440-47-3	Chromium	28.6			P
7440-48-4	Cobalt	7.3	B		P
7440-50-8	Copper	82.3			P
7439-89-6	Iron	15000			P
7439-92-1	Lead	149		*	F
7439-95-4	Magnesium	6960			P
7439-96-5	Manganese	343			P
7439-97-6	Mercury	0.29		N*	CV
7440-02-0	Nickel	23.0			P
7440-09-7	Potassium	995	B		P
7782-49-2	Selenium	0.30	B		F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	1550			P
7440-28-0	Thallium	0.30	U		F
7440-62-2	Vanadium	36.0		E	P
7440-66-6	Zinc	241			P
	Cyanide				NR

Color Before: BLACK Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILMO3.0

ATTACHMENT X3 I

GENERAL ANALYSIS DATA SHEET

Sample: 678

LABORATORY NAME: ICM
LAB SAMPLE ID No: 19773H
SAMPLE MATRIX: SOIL
EXTRACTION METHOD: 418.1 mod. Freon
ANALYTICAL METHOD #: 418.1 mod. Freon
PERCENT MOISTURE: (Not Decanted) 21
DATA RELEASE AUTHORIZED BY:
DECANTED: YES (NO) (circle one)

CASE NUMBER:
CONTRACT No: X26174
DATE SAMPLE RECEIVED: 10/06/94
DATE EXTRACTED/PREPARED: 10/25/94
DATE ANALYZED: 10/26/94
CONC./DIL/ FACTOR: 25.00
SAMPLE WT/VOL: 21g

PARAMETER	SAMPLE CONC. (UNITS:) mg/kg	METHOD BLANK (UNITS:) mg/kg	METHOD DETECTION LIMITS
TPHC	3700	U	27

VS_____ or Wg_____ VF_____ Vi_____

Vs = volume of water extracted (mL) VF = volume of total extract (uL)
Wg = Weight of sample extracted (g) Vi = volume of extract injected (uL)

NJDEPE FORM G-1 (9/91)

ATTACHMENT X-4

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

1

EPA SAMPLE NO.
RUN OFF ROUTE
S-2 679

Lab Name: ICM Contract: A60084

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197735

Level (low/med): LOW Date Received: 10/06/94

% Solids: 77.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	C	Q	M
	7429-90-5	Aluminum	6230			P
	7440-36-0	Antimony	10.5	U		P
	7440-38-2	Arsenic	15.2			F
	7440-39-3	Barium	150			P
	7440-41-7	Beryllium	0.45	B		P
*	7440-43-9	Cadmium	2.9			P
	7440-70-2	Calcium	1610			P
	7440-47-3	Chromium	18.4			P
	7440-48-4	Cobalt	4.8	B		P
	7440-50-8	Copper	121			P
	7439-89-6	Iron	11800			P
	7439-92-1	Lead	291		*	F
	7439-95-4	Magnesium	1490			P
	7439-96-5	Manganese	112			P
	7439-97-6	Mercury	1.1		N*	CV
	7440-02-0	Nickel	27.0			P
	7440-09-7	Potassium	492	B		P
	7782-49-2	Selenium	0.85	B		F
	7440-22-4	Silver	1.1	U		P
	7440-23-5	Sodium	178	B		P
	7440-28-0	Thallium	0.31	U		F
	7440-62-2	Vanadium	30.5		E	P
	7440-66-6	Zinc	253			P
		Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: MED

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

FORM I - IN

ILM03.0

ATTACHMENT X5

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
RUN OFF ROUTE
S-3 680

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197736

Level (low/med): LOW Date Received: 10/06/94

% Solids: 74.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	C	Q	M
	7429-90-5	Aluminum	6870			P
	7440-36-0	Antimony	11.0	U		P
	7440-38-2	Arsenic	14.4			F
	7440-39-3	Barium	237			P
	7440-41-7	Beryllium	0.40	B		P
*	7440-43-9	Cadmium	22.6			P
	7440-70-2	Calcium	34000			P
	7440-47-3	Chromium	36.5			P
	7440-48-4	Cobalt	10.6	B		P
	7440-50-8	Copper	1370			P
	7439-89-6	Iron	23800			P
*	7439-92-1	Lead	1100		*	F
	7439-95-4	Magnesium	1810			P
	7439-96-5	Manganese	361			P
	7439-97-6	Mercury	1.7		N*	CV
	7440-02-0	Nickel	118			P
	7440-09-7	Potassium	778	B		P
	7782-49-2	Selenium	1.1	B		F
	7440-22-4	Silver	1.2	U		P
	7440-23-5	Sodium	209	B		P
	7440-28-0	Thallium	0.32	U		F
	7440-62-2	Vanadium	34.6		E	P
*	7440-66-6	Zinc	1510			P
		Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts: YES

Comments:
SAMPLE CONTAINS GREY ROCKS.

FORM I - IN

ILM03.0

ATTACHMENT X6

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
AREA A
S-4 681

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197737

Level (low/med): LOW Date Received: 10/06/94

% Solids: 90.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1570			P
7440-36-0	Antimony	9.0	U		P
7440-38-2	Arsenic	4.0			F
7440-39-3	Barium	13.4	B		P
7440-41-7	Beryllium	0.14	B		P
7440-43-9	Cadmium	0.64	U		P
7440-70-2	Calcium	232	B		P
7440-47-3	Chromium	13.7			P
7440-48-4	Cobalt	2.5	B		P
7440-50-8	Copper	11.8			P
7439-89-6	Iron	7670			P
7439-92-1	Lead	12.6		*	F
7439-95-4	Magnesium	113	B		P
7439-96-5	Manganese	8.6			P
7439-97-6	Mercury	0.06	U	N*	CV
7440-02-0	Nickel	3.3	B		P
7440-09-7	Potassium	305	B		P
7782-49-2	Selenium	0.38	B		F
7440-22-4	Silver	0.95	U		P
7440-23-5	Sodium	22.2	B		P
7440-28-0	Thallium	0.27	U		F
7440-62-2	Vanadium	26.1		E	P
7440-66-6	Zinc	10.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
SAMPLE CONTAINS LUMPS OF DRY SOIL.

FORM I - IN

ILM03.0

ATTACHMENT X?

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
AREA B
S-5 682

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197738

Level (low/med): LOW Date Received: 10/06/94

% Solids: 88.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2030			P
7440-36-0	Antimony	9.2	U		P
7440-38-2	Arsenic	2.1	B		F
7440-39-3	Barium	15.7	B		P
7440-41-7	Beryllium	0.11	U		P
7440-43-9	Cadmium	0.66	U		P
7440-70-2	Calcium	122	B		P
7440-47-3	Chromium	13.0			P
7440-48-4	Cobalt	2.1	B		P
7440-50-8	Copper	11.1			P
7439-89-6	Iron	8260			P
7439-92-1	Lead	7.2		*	F
7439-95-4	Magnesium	64.5	B		P
7439-96-5	Manganese	7.7			P
7439-97-6	Mercury	0.06	U	N*	CV
7440-02-0	Nickel	3.2	U		P
7440-09-7	Potassium	615	B		P
7782-49-2	Selenium	0.21	U		F
7440-22-4	Silver	0.97	U		P
7440-23-5	Sodium	37.3	B		P
7440-28-0	Thallium	0.27	U		F
7440-62-2	Vanadium	22.2		E	P
7440-66-6	Zinc	7.8			P
	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILMO3.0

ATTACHMENT X 8

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-6 683

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197739

Level (low/med): LOW Date Received: 10/06/94

% Solids: 77.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6140			P
7440-36-0	Antimony	10.6	U		P
7440-38-2	Arsenic	5.3			F
7440-39-3	Barium	148			P
7440-41-7	Beryllium	0.33	B		P
7440-43-9	Cadmium	8.7			P
7440-70-2	Calcium	17700			P
7440-47-3	Chromium	24.4			P
7440-48-4	Cobalt	7.2	B		P
7440-50-8	Copper	345			P
7439-89-6	Iron	12600			P
7439-92-1	Lead	146		*	F
7439-95-4	Magnesium	1380			P
7439-96-5	Manganese	111			P
7439-97-6	Mercury	0.54		N*	CV
7440-02-0	Nickel	24.0			P
7440-09-7	Potassium	326	B		P
7782-49-2	Selenium	0.26	B		F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	134	B		P
7440-28-0	Thallium	0.31	U		F
7440-62-2	Vanadium	17.5		E	P
7440-66-6	Zinc	569			P
	Cyanide				NR

Color Before: BLACK Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILMO3.0

ATTACHMENT X9

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

S-7 684

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197740

Level (low/med): LOW Date Received: 10/06/94

% Solids: 82.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3140			P
7440-36-0	Antimony	9.9	U		P
7440-38-2	Arsenic	0.32	B		F
7440-39-3	Barium	23.5	B		P
7440-41-7	Beryllium	0.15	B		P
7440-43-9	Cadmium	0.70	U		P
7440-70-2	Calcium	891	B		P
7440-47-3	Chromium	5.0			P
7440-48-4	Cobalt	3.8	B		P
7440-50-8	Copper	10.8			P
7439-89-6	Iron	7550			P
7439-92-1	Lead	3.7		*	F
7439-95-4	Magnesium	1230			P
7439-96-5	Manganese	50.0			P
7439-97-6	Mercury	0.06	U	N*	CV
7440-02-0	Nickel	5.8	B		P
7440-09-7	Potassium	552	B		P
7782-49-2	Selenium	0.23	U		F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	869	B		P
7440-28-0	Thallium	0.29	U		F
7440-62-2	Vanadium	9.9	B	E	P
7440-66-6	Zinc	20.6			P
	Cyanide				NR

Color Before: RED Clarity Before: OPAQUE Texture: MED

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILM03.0

ATTACHMENT X 10

GENERAL ANALYSIS DATA SHEET

Sample 684

LABORATORY NAME: ICM
LAB SAMPLE ID No: 19740
SAMPLE MATRIX: ~~Wtr.~~ SOIL
EXTRACTION METHOD: 418.1 modified
ANALYTICAL METHOD #: 418.1 modified
PERCENT MOISTURE: (Not Decanted) 18
DATA RELEASE AUTHORIZED BY:
DECANTED: YES / NO (circle one)

CASE NUMBER:
CONTRACT No: X26174
DATE SAMPLE RECEIVED: 10/06/94
DATE EXTRACTED/PREPARED: 10/25/94
DATE ANALYZED: 10/26/94
CONC./DIL/ FACTOR: 1.00
SAMPLE WT/VOL: 21g

PARAMETER	SAMPLE CONC. (UNITS:) mg/kg	METHOD BLANK (UNITS:) mg/kg	METHOD DETECTION LIMITS
TPHC	95	U	21

VS_____ or Wg_____ VF_____ Vi_____

Vs = volume of water extracted (mL) VF = volume of total extract (uL)
Wg = Weight of sample extracted (g) Vi = volume of extract injected (uL)

NJDEPE FORM G-1 (9/91)

ATTACHMENT X

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
OIL SPILL
685
DUP OF S-12
NOT PART OF G+G

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197741

Level (low/med): LOW Date Received: 10/06/94

% Solids: 31.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	C	Q	M
	7429-90-5	Aluminum	15100			P
	7440-36-0	Antimony	26.1	U		P
	7440-38-2	Arsenic	26.6			F
*	7440-39-3	Barium	1140			P
	7440-41-7	Beryllium	0.88	B		P
*	7440-43-9	Cadmium	8.8			P
	7440-70-2	Calcium	29300			P
	7440-47-3	Chromium	131			P
	7440-48-4	Cobalt	17.0	B		P
	7440-50-8	Copper	822			P
	7439-89-6	Iron	37800			P
*	7439-92-1	Lead	2790		*	F
	7439-95-4	Magnesium	5860			P
	7439-96-5	Manganese	589			P
	7439-97-6	Mercury	4.4		N*	CV
	7440-02-0	Nickel	151			P
	7440-09-7	Potassium	1430	B		P
	7782-49-2	Selenium	5.6			F
	7440-22-4	Silver	5.0	B		P
	7440-23-5	Sodium	897	B		P
	7440-28-0	Thallium	0.77	U		F
	7440-62-2	Vanadium	148		E	P
*	7440-66-6	Zinc	2870			P
		Cyanide				NR

Color Before: BLACK Clarity Before: OPAQUE Texture: MED

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILMO3.0

ATTACHMENT X-12

GENERAL ANALYSIS DATA SHEET

Sample: 685

LABORATORY NAME: ICM
LAB SAMPLE ID No: 19774
SAMPLE MATRIX: SOIL
EXTRACTION METHOD: 418.1 modified
ANALYTICAL METHOD #: 418.1 modified
PERCENT MOISTURE: (Not Decanted) 69
DATA RELEASE AUTHORIZED BY:
DECANTED: YES NO (circle one)

CASE NUMBER:
CONTRACT No: X26174
DATE SAMPLE RECEIVED: 10/06/94
DATE EXTRACTED/PREPARED: 10/25/94
DATE ANALYZED: 10/26/94
CONC./DIL/ FACTOR: 25.00
SAMPLE WT/VOL: 21g

PARAMETER	SAMPLE CONC (UNITS:) mg/kg	METHOD BLANK (UNITS:) mg/kg	METHOD DETECTION LIMITS
* TPHC	19000	U	59

VS_____ or Wg_____ VF_____ Vi_____

Vs = volume of water extracted (mL) VF = volume of total extract (uL)
Wg = Weight of sample extracted (g) Vi = volume of extract injected (uL)

NJDEPE FORM G-1 (9/91)

ATTACHMENT X13

GENERAL ANALYSIS DATA SHEET

Sample: 686

LABORATORY NAME: ICM
LAB SAMPLE ID No: 19774P
SAMPLE MATRIX: SOIL
EXTRACTION METHOD: 418.1 modified
ANALYTICAL METHOD #: 418.1 modified
PERCENT MOISTURE: (Not Decanted) 18
DATA RELEASE AUTHORIZED BY:
DECANTED: YES (NO) (circle one)

CASE NUMBER:
CONTRACT No: X26174
DATE SAMPLE RECEIVED: 10/06/94
DATE EXTRACTED/PREPARED: 10/25/94
DATE ANALYZED: 10/26/94
CONC./DIL/ FACTOR: 10.00
SAMPLE WT/VOL: 21g

PARAMETER	SAMPLE CONC. (UNITS:) mg/kg	METHOD BLANK (UNITS:) mg/kg	METHOD DETECTION LIMITS
TPHC	1600	U	25

VS_____ or Wg_____ VF_____ Vi_____

Vs = volume of water extracted (mL) VF = volume of total extract (uL)
Wg = Weight of sample extracted (g) Vi = volume of extract injected (uL)

NJDEPE FORM G-1 (9/91)

ATTACHMENT X14

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
DRAINAGE DITCH
S-9 686

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197742

Level (low/med): LOW Date Received: 10/06/94

% Solids: 81.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	C	Q	M
	7429-90-5	Aluminum	6410			P
	7440-36-0	Antimony	10.0	U		P
	7440-38-2	Arsenic	8.5			F
	7440-39-3	Barium	121			P
	7440-41-7	Beryllium	0.21	B		P
	7440-43-9	Cadmium	1.2	B		P
	7440-70-2	Calcium	6650			P
	7440-47-3	Chromium	30.5			P
	7440-48-4	Cobalt	7.7	B		P
	7440-50-8	Copper	162			P
	7439-89-6	Iron	17300			P
*	7439-92-1	Lead	264		S*	F
	7439-95-4	Magnesium	3480			P
	7439-96-5	Manganese	269			P
	7439-97-6	Mercury	1.2		N*	CV
	7440-02-0	Nickel	28.0			P
	7440-09-7	Potassium	819	B		P
	7782-49-2	Selenium	0.66	B		F
	7440-22-4	Silver	1.1	U		P
	7440-23-5	Sodium	306	B		P
	7440-28-0	Thallium	0.29	U		F
	7440-62-2	Vanadium	49.9		E	P
*	7440-66-6	Zinc	413			P
		Cyanide				NR

Color Before: BLACK Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILMO3.0

ATTACHMENT X 15

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
DRAINAGE DITCH
S-10 687

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197743

Level (low/med): LOW Date Received: 10/06/94

% Solids: 53.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	C	Q	M
	7429-90-5	Aluminum	8280			P
	7440-36-0	Antimony	15.4	U		P
	7440-38-2	Arsenic	8.9			F
	7440-39-3	Barium	136			P
	7440-41-7	Beryllium	0.42	B		P
*	7440-43-9	Cadmium	5.5			P
	7440-70-2	Calcium	7110			P
*	7440-47-3	Chromium	156			P
	7440-48-4	Cobalt	12.8	B		P
	7440-50-8	Copper	360			P
	7439-89-6	Iron	22700			P
*	7439-92-1	Lead	374		*	F
	7439-95-4	Magnesium	3210			P
	7439-96-5	Manganese	177			P
	7439-97-6	Mercury	0.86		N*	CV
*	7440-02-0	Nickel	598			P
	7440-09-7	Potassium	928	B		P
	7782-49-2	Selenium	0.64	B		F
	7440-22-4	Silver	1.6	U		P
	7440-23-5	Sodium	520	B		P
	7440-28-0	Thallium	0.45	U		F
	7440-62-2	Vanadium	39.4		E	P
*	7440-66-6	Zinc	774			P
		Cyanide				NR

Color Before: BLACK Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILM03.0

ATTACHMENT X16

GENERAL ANALYSIS DATA SHEET

Sample 687

LABORATORY NAME: TCM
LAB SAMPLE ID No: 19743
SAMPLE MATRIX: SOIL
EXTRACTION METHOD: 418.1 modified
ANALYTICAL METHOD #: 418.1 modified
PERCENT MOISTURE: (Not Decanted) 47
DATA RELEASE AUTHORIZED BY:
DECANTED: YES NO (circle one)

CASE NUMBER:
CONTRACT No: X2617
DATE SAMPLE RECEIVED: 10/06/94
DATE EXTRACTED/PREPARED: 10/25/94
DATE ANALYZED: 10/26/94
CONC./DIL/ FACTOR: 10.00
SAMPLE WT/VOL: 21g

PARAMETER	SAMPLE CONC. (UNITS:) mg/kg	METHOD BLANK (UNITS:) mg/kg	METHOD DETECTION LIMITS
TPHC	4200	u	35

VS_____ or Wg_____ VF_____ Vi_____

Vs = volume of water extracted (mL) VF = volume of total extract (uL)
Wg = Weight of sample extracted (g) Vi = volume of extract injected (uL)

NJDEPE FORM G-1 (9/91)

ATTACHMENT X12

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
OIL SPILL
S-12 689
NOT ON PROPERTY

Lab Name: ICM Contract: A60084

Lab Code: Case No.: SAS No.: SDG No.: 678

Matrix (soil/water): SOIL Lab Sample ID: 197744

Level (low/med): LOW Date Received: 10/06/94

% Solids: 24.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	CAS No.	Analyte	Concentration	C	Q	M
	7429-90-5	Aluminum	11600			P
	7440-36-0	Antimony	33.6	U		P
*	7440-38-2	Arsenic	46.2			F
	7440-39-3	Barium	411			P
	7440-41-7	Beryllium	0.63	B		P
	7440-43-9	Cadmium	3.3	B		P
	7440-70-2	Calcium	23600			P
	7440-47-3	Chromium	42.8			P
	7440-48-4	Cobalt	10.2	B		P
	7440-50-8	Copper	383			P
	7439-89-6	Iron	17100			P
*	7439-92-1	Lead	405		*	F
	7439-95-4	Magnesium	3520	B		P
	7439-96-5	Manganese	393			P
	7439-97-6	Mercury	2.8		N*	CV
	7440-02-0	Nickel	80.7			P
	7440-09-7	Potassium	979	B		P
	7782-49-2	Selenium	5.8	B		F
	7440-22-4	Silver	4.3	B		P
	7440-23-5	Sodium	1430	B		P
	7440-28-0	Thallium	0.99	U		F
	7440-62-2	Vanadium	54.5		E	P
	7440-66-6	Zinc	1160			P
		Cyanide				NR

Color Before: BLACK Clarity Before: OPAQUE Texture: MED

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILMO3.0

ATTACHMENT X 18

GENERAL ANALYSIS DATA SHEET

Sample: 689

LABORATORY NAME: ICM
LAB SAMPLE ID No: 197744
SAMPLE MATRIX: SOIL
EXTRACTION METHOD: 418.1 modified
ANALYTICAL METHOD #: 418.1 modified
PERCENT MOISTURE: (Not Decanted) 76
DATA RELEASE AUTHORIZED BY:
DECANTED: YES (NO) (circle one)

CASE NUMBER:
CONTRACT No: X26174
DATE SAMPLE RECEIVED: 10/06/94
DATE EXTRACTED/PREPARED: 10/25/94
DATE ANALYZED: 10/26/94
CONC./DIL/ FACTOR: 1.00
SAMPLE WT/VOL: 21g

PARAMETER	SAMPLE CONC. (UNITS:) mg/kg	METHOD BLANK (UNITS:) mg/kg	METHOD DETECTION LIMITS
TPHC	1,000	U	78

VS_____ or Wg_____ VF_____ Vi_____

Vs = volume of water extracted (mL) VF = volume of total extract (uL)
Wg = Weight of sample extracted (g) Vi = volume of extract injected (uL)

NJDEPE FORM G-1 (9/91)

ATTACHMENT X 19

Attachment Y

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

CHRISTINE TODD WHITMAN
Governor

ROBERT C. SHINN, JR.
Commissioner

M E M O R A N D U M

TO: Frank Sorce
Site Assessment Section

FEB 07 1995

FROM: Joseph Sanguiliano JS 2-7-95
Quality Assurance Section
Bureau of Environmental Measurements and Quality Assurance

SUBJECT: Analytical Data Validation of the October 5, 1994 sampling event conducted at **Guignon & Green Company.** Analysis by ICM Laboratories, Randolph, New Jersey.

SAMPLES REVIEWED

FIELD ID	LAB ID	COLLECTION DATE	MATRIX
678	197734	10/05/94	SOIL
679	197735	10/05/94	SOIL
680	197736	10/05/94	SOIL
681	197737	10/05/94	SOIL
682	197738	10/05/94	SOIL
683	197739	10/05/94	SOIL
684	197740	10/05/94	SOIL
685	197741	10/05/94	SOIL
686	197742	10/05/94	SOIL
687	197743	10/05/94	SOIL
689	197744	10/05/94	SOIL

The Quality Assurance Section, Bureau of Environmental Measurements and Quality Assurance, Division of Publicly Funded Site Remediation, has reviewed the above mentioned samples for Inorganics and Total Petroleum Hydrocarbons. Please refer to the detailed data validation report and the Target Analyte Summary List for additional information. Specific comments are provided below.

Inorganics

The Inorganics analysis was performed according to the CLP Statement of Work (Document ILM03.0) and the data are acceptable except for the following qualifications and/or rejections:

The non-detect values for Mercury in samples 681, 682, and 684 are rejected because the sample spike recovery was zero percent. The end-user should be aware that there is a possibility of false non-detects for the affected samples.

Certain analytes are qualified because the following QA/QC control limits were not met: CRDL standard; sample spike analysis; duplicate analysis; and serial dilution analysis. Please refer to the specific footnotes in the Target Analyte Summary List for the affected analytes.

Total Petroleum Hydrocarbons

The Total Petroleum Hydrocarbons analysis was performed by USEPA Method 418.1 (modified). The reported concentrations are acceptable.

If you have any questions concerning this review, please contact this office at 633-0752.

c. William Lowry, BEMQA

ATTACHMENT 12

Target Analyte Summary List

Site Name: **Guignon & Green** Sampling Date: 10/05/94

Sample Analyte	Method Blank Conc.	Lab Report Conc.	QAS Report Conc.	QAS Decision	Footnotes
Sample 678					
INORGANICS(mg/kg):					
Aluminum	U	9740	9740		
Arsenic	U	6.3 J	6.3 J	Qualify	7
Barium	U	119	119		
Beryllium	U	0.49 J	0.49 J	Qualify	1
Cadmium	U	1.2 J	1.2 J	Qualify	1
Calcium	U	59800	59800		
Chromium	U	28.6 J	28.6 J	Qualify	7
Cobalt	U	7.3 J	7.3 J	Qualify	1
Copper	U	82.3	82.3		
Iron	U	15000	15000		
Lead	U	149 J	149 J	Qualify	2
Magnesium	U	6960	6960		
Manganese	U	343	343		
Mercury	U	0.29 J	0.29 J	Qualify	2, 3
Nickel	U	23.0	23.0		
Potassium	U	995 J	995 J	Qualify	1
Selenium	U	0.30 J	0.30 J	Qualify	1
Sodium	U	1550	1550		
Vanadium	U	36.0 J	36.0 J	Qualify	4
Zinc	U	241	241		
Sample 679					
INORGANICS(mg/kg):					
Aluminum	U	6230	6230		
Arsenic	U	15.2 J	15.2 J	Qualify	7
Barium	U	150	150		
Beryllium	U	0.50 J	0.50 J	Qualify	1
Cadmium	U	2.9	2.9		
Calcium	U	1610	1610		
Chromium	U	18.4 J	18.4 J	Qualify	7
Cobalt	U	4.8 J	4.8 J	Qualify	1
Copper	U	121	121		
Iron	U	11800	11800		
Lead	U	291 J	291 J	Qualify	2
Magnesium	U	1490	1490		
Manganese	U	112	112		
Mercury	U	1.1 J	1.1 J	Qualify	2, 3
Nickel	U	27.0	27.0		
Potassium	U	492 J	492 J	Qualify	1
Selenium	U	0.85 J	0.85 J	Qualify	1
Sodium	U	178 J	178 J	Qualify	1
Vanadium	U	30.5 J	30.5 J	Qualify	4
Zinc	U	253	253		

ATTACHMENT Y3

Sample Analyte	Method Blank Conc.	Lab Report Conc.	QAS Report Conc.	QAS Decision	Footnotes
Sample 680					
INORGANICS(mg/kg):					
Aluminum	U	6870	6870		
Arsenic	U	14.4 J	14.4 J	Qualify	7
Barium	U	237	237		
Beryllium	U	0.40 J	0.40 J	Qualify	1
Cadmium	U	22.6	22.6		
Calcium	U	34000	34000		
Chromium	U	36.5 J	36.5 J	Qualify	7
Cobalt	U	10.6 J	10.6 J	Qualify	1
Copper	U	1370	1370		
Iron	U	23800	23800		
Lead	U	1100 J	1100 J	Qualify	2
Magnesium	U	1810	1810		
Manganese	U	361	361		
Mercury	U	1.7 J	1.7 J	Qualify	2, 3
Nickel	U	118	118		
Potassium	U	778 J	778 J	Qualify	1
Selenium	U	1.1 J	1.1 J	Qualify	1
Sodium	U	209 J	209 J	Qualify	1
Vanadium	U	34.6 J	34.6 J	Qualify	4
Zinc	U	1510	1510		
Sample 681					
INORGANICS(mg/kg):					
Aluminum	U	1570	1570		
Arsenic	U	4.0 J	4.0 J	Qualify	7
Barium	U	13.4 J	13.4 J	Qualify	1
Beryllium	U	0.14 J	0.14 J	Qualify	1
Calcium	U	232 J	232 J	Qualify	1
Chromium	U	13.7 J	13.7 J	Qualify	7
Cobalt	U	2.5 J	2.5 J	Qualify	1
Copper	U	11.8	11.8		
Iron	U	7670	7670		
Lead	U	12.6 J	12.6 J	Qualify	2, 7
Magnesium	U	113 J	113 J	Qualify	1
Manganese	U	8.6	8.6		
Mercury	U	0.06 UJ	---	Reject	6
Nickel	U	3.3 J	3.3 J	Qualify	1
Potassium	U	305 J	305 J	Qualify	1
Selenium	U	0.38 J	0.38 J	Qualify	1
Sodium	U	22.2 J	22.2 J	Qualify	1
Vanadium	U	26.1 J	26.1 J	Qualify	4
Zinc	U	10.1	10.1		
Sample 682					
INORGANICS(mg/kg):					
Aluminum	U	2030	2030		
Arsenic	U	2.1 J	2.1 J	Qualify	7
Barium	U	15.7 J	15.7 J	Qualify	1
Calcium	U	122 J	122 J	Qualify	1
Chromium	U	13.0 J	13.0 J	Qualify	7
Cobalt	U	2.1 J	2.1 J	Qualify	1
Copper	U	11.1	11.1		

ATTACHMENT Y4

Sample Analyte	Method Blank Conc.	Lab Report Conc.	QAS Report Conc.	QAS Decision	Footnote
Iron	U	8260	8260		
Lead	U	7.2 J	7.2 J	Qualify	2, 7
Magnesium	U	64.5 J	64.5 J	Qualify	1
Manganese	U	7.7	7.7		
Mercury	U	0.06 UJ	---	Reject	6
Potassium	U	615 J	615 J	Qualify	1
Sodium	U	37.3 J	37.3 J	Qualify	1
Vanadium	U	22.2 J	22.2 J	Qualify	4
Zinc	U	7.81	7.81		
Sample 683					
INORGANICS(mg/kg):					
Aluminum	U	6140	6140		
Arsenic	U	5.3 J	5.3 J	Qualify	7
Barium	U	148	148		
Beryllium	U	0.33 J	0.33 J	Qualify	1
Cadmium	U	8.7	8.7		
Calcium	U	17700	17700		
Chromium	U	24.4 J	24.4 J	Qualify	7
Cobalt	U	7.2 J	7.2 J	Qualify	1
Copper	U	345	345		
Iron	U	12600	12600		
Lead	U	146 J	146 J	Qualify	2
Magnesium	U	1380	1380		
Manganese	U	111	111		
Mercury	U	0.54 J	0.54 J	Qualify	2, 3
Nickel	U	24.0	24.0		
Potassium	U	326 J	326 J	Qualify	1
Selenium	U	0.26 J	0.26 J	Qualify	1
Sodium	U	134 J	134 J	Qualify	1
Vanadium	U	17.5 J	17.5 J	Qualify	4
Zinc	U	569	569		
Sample 684					
INORGANICS(mg/kg):					
Aluminum	U	3140	3140		
Arsenic	U	0.32 J	0.32 J	Qualify	1, 7
Barium	U	23.5	23.5 J	Qualify	1
Beryllium	U	0.15 J	0.15 J	Qualify	1
Calcium	U	891 J	891 J	Qualify	1
Chromium	U	5.0 J	5.0 J	Qualify	7
Cobalt	U	3.8 J	3.8 J	Qualify	1
Copper	U	10.8	10.8		
Iron	U	7550	7550		
Lead	U	3.7 J	3.7 J	Qualify	2, 7
Magnesium	U	1230	1230		
Manganese	U	50.0	50.0		
Mercury	U	0.06 UJ	---	Reject	6
Nickel	U	5.8 J	5.8 J	Qualify	1
Potassium	U	552 J	552 J	Qualify	1
Sodium	U	869 J	869 J	Qualify	1
Vanadium	U	9.9 J	9.9 J	Qualify	4
Zinc	U	20.6	20.6		

Sample Analyte	Method Blank Conc.	Lab Report Conc.	QAS Report Conc.	QAS Decision	Footnote
Sample 685					
INORGANICS(mg/kg):					
Aluminum	U	15100	15100		
Arsenic	U	26.6 J	26.6 J	Qualify	7
Barium	U	1140	1140		
Beryllium	U	0.88 J	0.88 J	Qualify	1
Cadmium	U	8.8	8.8		
Calcium	U	29300	29300		
Chromium	U	131	131		
Cobalt	U	17.0 J	17.0 J	Qualify	1
Copper	U	822	822		
Iron	U	37800	37800		
Lead	U	2790 J	2790 J	Qualify	2
Magnesium	U	5860	5860		
Manganese	U	589	589		
Mercury	U	4.4 J	4.4 J	Qualify	2, 3
Nickel	U	151	151		
Potassium	U	1430 J	1430 J	Qualify	1
Selenium	U	5.6	5.6		
Silver	U	5.0 J	5.0 J	Qualify	1
Sodium	U	897 J	897 J	Qualify	1
Vanadium	U	148 J	148 J	Qualify	4
Zinc	U	2870	2870		
Sample 686					
INORGANICS(mg/kg):					
Aluminum	U	6410	6410		
Arsenic	U	8.5 J	8.5 J	Qualify	7
Barium	U	121	121		
Beryllium	U	0.21 J	0.21 J	Qualify	1
Cadmium	U	1.2 J	1.2 J	Qualify	1
Calcium	U	6650	6650		
Chromium	U	30.5 J	30.5 J	Qualify	7
Cobalt	U	7.7 J	7.7 J	Qualify	1
Copper	U	162	162		
Iron	U	17300	17300		
Lead	U	264 J	264 J	Qualify	2
Magnesium	U	3480	3480		
Manganese	U	269	269		
Mercury	U	1.2 J	1.2 J	Qualify	2, 3
Nickel	U	28.0	28.0		
Potassium	U	891 J	891 J	Qualify	1
Selenium	U	0.66 J	0.66 J	Qualify	1
Sodium	U	306 J	306 J	Qualify	1
Vanadium	U	49.9 J	49.9 J	Qualify	4
Zinc	U	413	413		

ATTACHMENT V 6

Sample Analyte	Method Blank Conc.	Lab Report Conc.	QAS Report Conc.	QAS Decision	Footnote
Sample 687					
INORGANICS(mg/kg):					
Aluminum	U	8280	8280		
Arsenic	U	8.9 J	8.9 J	Qualify	7
Barium	U	136	136		
Beryllium	U	0.42 J	0.42 J	Qualify	1
Cadmium	U	5.5	5.5		
Calcium	U	7110	7110		
Chromium	U	156	156		
Cobalt	U	12.8 J	12.8 J	Qualify	1
Copper	U	360	360		
Iron	U	22700	22700		
Lead	U	374 J	374 J	Qualify	2
Magnesium	U	3210	3210		
Manganese	U	177	177		
Mercury	U	0.86 J	0.86 J	Qualify	2, 3
Nickel	U	598	598		
Potassium	U	928 J	928 J	Qualify	1
Selenium	U	0.64 J	0.64 J	Qualify	1
Sodium	U	520 J	520 J	Qualify	1
Vanadium	U	39.4 J	39.4 J	Qualify	4
Zinc	U	774	774		
Sample 689					
INORGANICS(mg/kg):					
Aluminum	U	11600	11600		
Arsenic	U	46.2	46.2		
Barium	U	411	411		
Beryllium	U	0.63 J	0.63 J	Qualify	1
Cadmium	U	3.3 J	3.3 J	Qualify	1
Calcium	U	23600	23600		
Chromium	U	42.8	42.8		
Cobalt	U	10.2 J	10.2 J	Qualify	1
Copper	U	383	383		
Iron	U	17100	17100		
Lead	U	405 J	405 J	Qualify	2
Magnesium	U	3520	3520		
Manganese	U	393	393		
Mercury	U	2.8 J	2.8 J	Qualify	2, 3
Nickel	U	80.7	80.7		
Potassium	U	979 J	979 J	Qualify	1
Selenium	U	5.8 J	5.8 J	Qualify	1
Silver	U	4.3 J	4.3 J	Qualify	1
Sodium	U	1430 J	1430 J	Qualify	1
Vanadium	U	54.5 J	54.5 J	Qualify	4
Zinc	U	1160	1160		

ATTACHMENT V-7

FOOTNOTES

1. The reported concentration was quantitatively qualified because the concentration was below the CRDL but greater than the IDL. The concentration is considered estimated since the value obtained is at the low end of the instrument performance.

2. The reported metal value is qualified because the spike recovery was was less than 30 percent. The result may be biased low.

3. In the duplicate sample analysis for metals, the analyte fell outside the control limits of 20 percent RPD or ± CRDL. Therefore, the result for the metal is qualified.

4. The reported metal value is qualified because the Serial Dilution is not within ten percent (10%) of sample concentration.

5. This non-detected metal detection limit is qualified (UJ) because the CRDL standard was below the recovery range (80-120 %).

6. The non-detected metal detection limit is rejected (R) because the spike recovery is was less than 30 percent.

7. This metal value is qualified because the associated CRDL is below the recovery range of 80% - 120%. The reported concentration may be biased low.